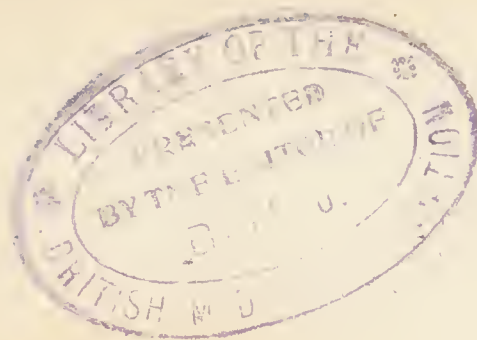



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THE
TRANSFUSION OF LIFE

CONTINUATION OF
LIFE PROLONGED.



FOR THE USE OF THE MEDICAL PROFESSION ONLY.

TWENTY YEARS LATER.

THE TRANSFUSION OF LIFE

A CONTINUATION OF
LIFE PROLONGED
BY MEANS OF THE
METHOD OF BROWN-SÉQUARD

BY

Dr. L. H. GOIZET

OF THE FACULTY OF MEDICINE OF PARIS,
FOUNDER OF THE SÉQUARDIAN INSTITUTE IN THE
RUE DE BERRI, PARIS, IN 1890.

Translated into English from the French by
EPHREM MONTÉPIC.

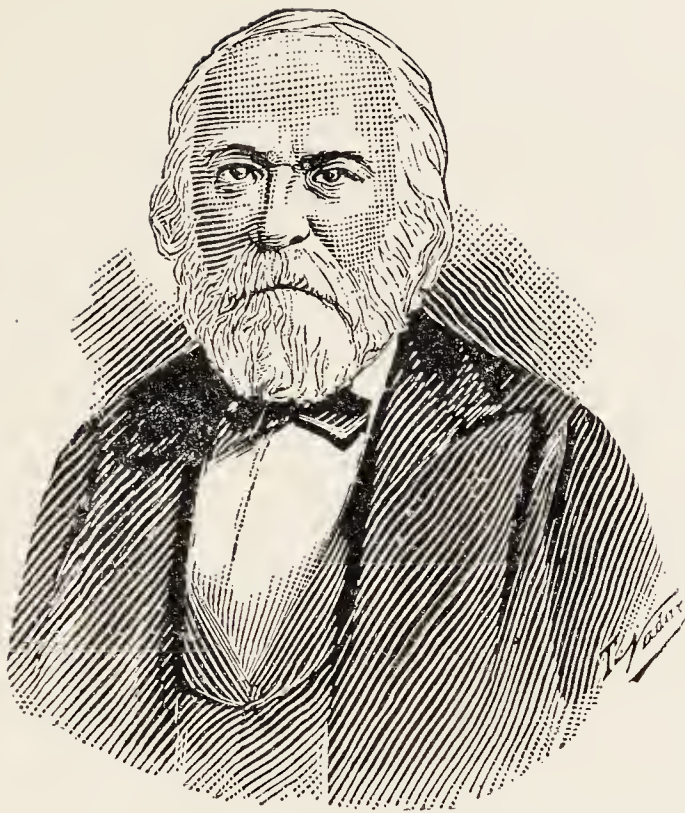
THE TRANSFUSION OF LIFE

Gives health to the sick ;
Strength to the weak ;
Virility to the impotent ;
Youth to the aged.

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BROWN - SÉQUARD (Charles Edward).
1817 - 1894.

Born at Port Louis (Mauritius) on the 8th of April, 1817, of Mr. Edward Brown, of Philadelphia, and of a French lady of the name of Séquard, Brown-Séquard came to Paris in 1838 to finish his studies there; two years later he was received a doctor by the Faculty of Medicine of that city. His studies bore principally upon physiological phenomena, whilst his favourite researches were directed towards the study of the disorders of the nervous system. In 1864 he went to the University of Harvard, where he acted as a Professor of nervous physiology and pathology up to 1868. After another stay in France, which lasted from 1869 (the year during which he was received a Fellow of the Faculty of Medicine of Paris) to 1873, we again find him in America, at New York, where he founded, in the year of his return to that city, the Archives of Medicine and

Surgery. In 1878 the Collège de France of Paris called him away from his practice at New York and gave him the chair of Physiology, which had been left vacant through the demise of the illustrious Claude Bernard. In 1886 the French Academy of Science admitted him as one of its members. Not long afterwards the Royal Society in London conferred upon him the title of Fellow, in reward of the services he had rendered to science in the quality of Physician at the Paralytic Hospital in London.

Though Brown-Séquard was now the recipient of all honours which could be bestowed upon a man of science, the zenith of his arduous and noble life was not yet reached. The crowning achievement of his career was made known to the world three years later, in 1889, when the news of his great discovery spread like a revolving flashlight over the whole universe, and was received by humanity as a new message of hope and healing. Orchitine, the outcome of his lifelong investigations and researches, had at last come to light, and he at once used it in the treatment of disease. Since then the name of Brown-Séquard has been engraved in the Temple of Fame. But the fate of many a great discoverer or inventor still awaited him. Several years of struggle against jealousy and indifference did not abate his ardent spirit, and before he died, in 1894, he had succeeded in improving the preparation of orchitine and in making of it the prototype of all organic fluids and sera with which the world is nowadays so familiar.

Brown-Séquard is the founder of the new medicine whose hold upon the medical world waxes stronger every day, and which bids fair to relegate, at no distant a date, the bulk of the arsenal of old remedies into the misty background of mere memory.

The mortal remains of Brown-Séquard lie in the Montparnasse Cemetery in Paris.

Honourable Colleagues,

On the 15th of December, 1890, Brown-Séquard wrote to me from Nice a letter in which there was the following passage:—

“You are young ; you have to make a name, and a high position is awaiting you. Follow the scientific path which cannot fail to reward you more largely than any other which may be open to you.”

Touched by this great mark of confidence, strongly impressed by the first results obtained, and deeply convinced that from my experiments would spring the signal confirmation of the scientific truth which had been announced at the tribune of the Biological Society of Paris by a master whose scientific genius and high professional integrity were universally appreciated, I set at once to work, inspired with the utmost resolution.

In the beginning Brown-Séquard made my task easy in sending me the greater number of the people who went to him to be treated; he also

aided me with his advice upon the advisability of applying his discovery to the divers pathological cases which came forward.

Soon, however, I was able to do by myself, and to experience the great satisfaction of having contributed in a large measure to popularising the method, through the fact that I had rendered the precious liquid unalterable, and that I had been the first to enclose it, in all its purity, in sterilised ampullæ of glass. From this moment the indefinite conservation and the facility of expedition in all countries of the world were assured.

Since 1890 my observations have been directed upon a great number of facts to which the twenty years which have now elapsed have put the seal, when the nervousness inherent to the over-excitement caused by the ardent polemics of the first hour have long ago been forgotten. From among this mass of facts I have made a choice which, as a token of dutifulness towards my venerated late Master, I have thought right to bring to the knowledge of the medical profession of the whole world, and to submit this bundle of facts to their wise and impartial appreciation. Thus it is in your hands, honourable colleagues, as Brown-Séquard no longer moves among us, that I place, as a memorial to his honoured name, the report of the mission with which he had

entrusted me, asking you at the same time to examine it thoroughly and to draw from it the inevitable consequences.

I do not doubt for a moment that this examination and impartial control of yours which I solicit of you, will be, as it has been to me, the source of the certitude that Brown-Séquard's discovery has placed into our hands a powerful weapon with which we may relieve many ills.

From my protracted and patient researches I have drawn the following conclusions, the value of which I beg you to examine:—

1. The different quality of the liquids employed has been the sole cause of contradictory judgments which were levelled with equal good faith by the eminent men who tried to verify conscientiously the exactness of the facts which made the object of Brown-Séquard's declaration. Those who used good liquids—they were few—were enthusiastic adepts of the method; the others—and their name is legion—proved themselves its convinced detractors.

Thence arises the absolute necessity to use only good liquids if the facts reported upon are to be appreciated with fairness at their full value.

If, when I began my researches, I had not had an elaborate faith in the affirmations of the Master, I should have been put out myself many a time by the irregularity of the results obtained.

I might have become disheartened and perhaps I should have abandoned my task if I had not been quick in perceiving the cause of my disappointment.

I always obtained good results when I used good liquids; I obtained no result at all when the liquids were bad. Now, I was not long in discovering that the liquids extracted under certain conditions which were invariably the same, were always efficacious, whilst liquids extracted in ignorance of these conditions possessed no power whatever. The conclusion to draw was easy to get at. The dynamogenous principle of Brown-Séguard exists in the organs at one precise moment only, and it is at this moment that it must be diverted and secured. This important discovery allowed me at once to have always at my disposal efficacious and identical liquids which I collected myself at the precise moment when their presence was revealed to me in the organs.

It is with these liquids that I have obtained the marvellous results which I have the honour to submit to your examination. It is also with liquids of that kind that you will have to operate if you wish to control the effects, as many times as convenient, which I have recorded in my observations.

However, I may say at once that the good liquids will be at hand whenever you feel inclined to control the facts which I affirm to be true.

In prevision of the steps which I am taking near you, honourable colleagues, the old and trustworthy firm of C. Richter & Co., of Kreuzlingen, in Switzerland, has undertaken to create, under my supervision and according to my instructions, a model laboratory, supplied with special machinery, which will allow its eminent director to extract and sterilise the matchless element of strength and life which is the liquid of Brown-Séquard. The animals are reared on the spot by members of their own staff, and are sacrificed at the opportune moment for the collection of the Séquardian juice, which henceforward can be supplied to you under the name of "Sequarine."

2. The liquids obtained under the conditions which are indispensable to their efficacy must be introduced into the system in the form of hypodermic injections. It is only in very exceptional cases, and when it is absolutely impossible to proceed otherwise, that recourse ought to be taken to introduction by the mouth or the rectum.

3. The Séquardian principle has a special dynamogenous action upon the whole of the nervous system. This action is a tonic and regulating one. It is in restoring the harmony between the physiological functions that it cures the sick and not their disease, as the Master would say, so judiciously. Disease being always the result of a rupture of the equilibrium between the diverse functions of the organs which to-

gether constitute life, it suffices to restore this equilibrium to oblige disease to lose the plausibility of its existence.

This conception of the mode of action of the Séquardian liquid clearly explains how this incomparable agent of regenerative force can bring about a gratifying result in the most diverse, and even apparently opposed, cases.

Thus, honourable colleagues, you will be able to ascertain by the numerous facts on which I beg to draw your well-deserved attention—facts which you may reproduce at will yourselves in identical cases, if you use good liquids—that the Séquardian principle acts with equal success in restoring in old men, as Brown-Séquard declares that it was the case with himself when he was seventy-two, “*special functions, not entirely obliterated, but diminished in their power,*” and in curing phthisical, cancerous, ataxic, hysterical, gouty patients, and even those suffering from heart disease, as my observations will show you.

If you are prepared to impress upon your own minds this scientific truth, that Sequarine is the pre-eminent tonic of the nervous system, the true principle of life, solely capable of restoring by its potency the destroyed harmony between the physiological functions, you will easily understand that we are not allowed to despair of any case as long as such a supreme help is at hand.

If you will go to the trouble of reading attentively the different cases of phthisical and tuberculous patients of all kinds whom I have treated at the request of Brown-Séquard, and whom I have been fortunate enough to cure, you may judge of the power which Sequarine, when united with the antiseptics, possesses to fight the terrible scourge which our therapeutics despair to cure. I entreat you to continue my efforts, as I am certain that you will carry off the final success, that is to say, that you will receive the finest reward, and experience the greatest satisfaction, which may be desired of a physician worthy of his profession.

Allow me, honourable colleagues, in arriving at the end of my professional career, to place into your experienced hands the trust which Brown-Séquard committed to me, and let me hope that you will all, without exception, accept to continue the mission of humanity which he gave me to fill when he wrote me the letter to which I alluded at the beginning of this appeal, and of which I have placed an extract before your eyes.

DR. L. H. GOIZET.

of the Faculty of Medicine of Paris; Founder of the Séquardian Institute in the Rue de Berri at Paris in 1890; Author of "Force et Santé," etc.

PART I.

CHAPTER I.

*Communication made by Dr. Brown-Séguard to the Biological Society of Paris on the dynamogenous power on man of a liquid extracted from the testicles of living or freshly-killed animals.**

In the course of the month of June, 1889, Professor Brown-Séguard made the following statement before the Biological Society:—

“ I am seventy-two years of age. My health is,
“ on the whole, good; the only troubles I occasion-
“ ally suffer from being rheumatism and merycism.
“ Having ceased to take any exercise for over
“ thirty years, my natural vigour, which has been
“ considerable, has gradually diminished, and
“ since ten or twelve years I have become very
“ weak indeed.

“ On the 15th of May last, Messrs. d'Arsonval
“ and Hénocque assisted me in the ablation of
“ the testicles of a very vigorous dog, from two
“ to three years old; the testicular veinous plexus
“ had been previously tied. After having hashed
“ the whole of the organ, and also the greater
“ portion of the vas deferens, I put the mixture,

* Archives de physiologie July 1889.

“ with the addition of a very small quantity of
“ water, into a mortar. Then we proceeded with
“ the pounding and crushing of these particles,
“ with a view of pressing out of them the greatest
“ quantity of juice possible. Some more water
“ having been added, the whole of the liquid ob-
“ tained, together with the portions of gland,
“ was poured on an excellent paper-filter. The
“ filtration went on slowly, and yielded four cubic
“ centimeters and a half of a liquid of little trans-
“ parency and of a slightly pink tinge. I injected
“ under the skin of one of my legs nearly one
“ cubic centimeter of the liquid, and repeated
“ the injection on the two following days, as well
“ as on the 24th, 29th, and 30th of May. On the
“ 4th of June I resumed the injections; the five
“ last ones were made with the liquid obtained
“ from guinea-pigs, young or adult, but all very
“ vigorous. The injections which I made
“ amounted to ten; most of them were made in
“ the legs, the remainder in the thigh and the
“ left arm. The proportion of the liquid ex-
“ tracted from testicles has in no case been
“ superior to the fifth of the mixture with the
“ water. Each injection was made with about
“ one cubic centimeter of the mixture. This
“ mixture was composed of three distinct ele-
“ ments: (1) blood, (2) sperm, (3) juice from the
“ gland itself. These different substances were
“ used simultaneously.

“ In almost every case I made use of the
“ Pasteur filter. The liquid employed was trans-
“ parent and colourless. All injections were a
“ trifle more painful than those made with pure
“ water or with water containing alkaloids.

“ These pains disappeared after a compara-
“ tively short time, varying from a few minutes
“ to a quarter of an hour, only to re-appear after
“ half an hour or three-quarters of an hour, and
“ to become in most of the cases very rapidly

“ intense. Their violence was such that sleep
“ was well-nigh impossible during the night which
“ followed the injections.

“ These pains remained acute for ten or twelve
“ hours on an average, and regularly persisted
“ during several days, though very considerably
“ lessened. At the same time as this pheno-
“ menon, there appeared an erythematous red-
“ ness, and even sometimes striae of angioleu-
“ citis, accompanied by swelling and sensation
“ of heat upon a surface of from two to three
“ square centimeters, not on the spot, however,
“ where the injections had been made, but over
“ the part where the liquid had been directed.

“ The pains and the above-mentioned inflam-
“ matory condition were much more marked in
“ the lower limbs. I might have easily pre-
“ vented these unpleasant effects by simply dilu-
“ ting more the liquid extracted from the gland
“ used.

“ But I wanted to know exactly what risks the
“ experiment entailed; I also desired to obtain
“ the maximum of the beneficial effects which I
“ anticipated. It is for these two reasons that I
“ gave a condensed liquid the preference.

“ I must say that a great many experiments
“ which had been made on dogs and rabbits had
“ proved the harmlessness of these injections, and
“ I was founded to expect no general ill effect,
“ though the local effects were painful.

“ Before making known the favourable effects
“ of these trials, I beg to be excused if I speak
“ so much of myself.

“ I hope that it will be clearly understood that
“ my demonstration can be of no value if I do not
“ give the necessary details concerning my health,
“ my vigour, my habits before these experiments
“ were made, as well as the particulars relating
“ to the effects produced.

“ Before May 15th, the day on which I made
“ my first injection, I was so weak that I was
“ unable to keep on my feet more than half an
“ hour when working at my laboratory; after that
“ time I felt compelled to sit down to rest.

“ Even when I remained seated throughout
“ my work at the laboratory, three or four hours
“ of experimenting sufficed to exhaust me; some-
“ times even two hours brought about the same
“ result.

“ For the last two years, as I also did from
“ 1879 to 1881, I have been in the habit of driving
“ home towards six o'clock, owing to the distance
“ from my laboratory to my house. In spite of
“ the mode of locomotion adopted, I used to feel
“ so tired after the few hours spent at experi-
“ mental work that I was always obliged to retire
“ to bed after a rapid and scanty meal.

“ During the last ten years it happened very
“ frequently that the exhaustion following on the
“ work at the laboratory was so great that it
“ would take me a long time before I could get
“ to sleep, although I would fain have slept had
“ I only been able to do so. In the morning I
“ used to wake up with a sensation of excessive
“ fatigue, as I had slept but little.

“ On the day following the first injection, and
“ still more so during the following days (five
“ injections were made on May 15th, 16th and
“ 17th), a radical change took place in my con-
“ stitution, and the reasons I had on June 1st
“ to say that I had regained at least the full
“ strength I had enjoyed many years before, were
“ still more conclusive.

“ Considerable work gone through at the
“ laboratory hardly produced now any sensation
“ of fatigue.

“ To the utter astonishment of my two prin-
“ cipal assistants and of other people, I had
“ become able to do experimental work for

“several hours in succession in a standing position without feeling the slightest need of sitting down.

“Yet even more: one day, on May 23rd, after three hours and a quarter of experimental work of a very fatiguing character, during which I had remained standing all through, I went home so little tired that after dinner I was able to sit down and to indite a paper bearing on very abstruse points.

“For over twenty years I had ceased to be able to perform as much.

“My friends are well aware that for the last thirty or forty years work after dinner had been an impossibility for me, and that I was accustomed to retire towards half-past seven or eight, and that I resumed work again between three and four in the morning. Since my first injections I have been able to do very serious intellectual work after dinner, taking two, three, and even once four hours to perform.

“As a result of an inborn impetuosity, and also in order to save time, I used, up to the age of sixty, to run up and down stairs.

“In the course of time this habit underwent a gradual change, when at last I was forced to ascend and descend the stairs rather slowly.

“I was even obliged to hold the railing when stairs happened to be steep.

“After the second injection I noticed that I had regained the aptitude I had lost, and that I had, without being aware of it, taken up my old habits.

“My limbs, which I submitted to dynamoscopic measurements during the week preceding my experiments, and also during the week which followed upon the first injection, showed a very considerable gain in strength.

“ The flexor muscles of my right arm could master an average of $34\frac{1}{2}$ kilogrammes (viz., from 32 to 37 kilogrammes). After this first injection the average rose to 41 kilogrammes (viz., from 39 to 44 kilogrammes); the gain consequently was from six to seven kilogrammes.

“ The flexor muscles of the forearm had also to a great extent regained their strength of twenty-six years ago.

“ At that time, viz., in 1863, they mastered 43 kilogrammes (from 40 to 46 kilogrammes).

“ It may be useful to state that if there are people who think that strength measured by means of a dynamometer is very variable in the same individual during the same day or the same week, the reason of this belief must be traced in their not taking into account the state of health of the subject or the time in the day.

“ Since May, 1860, I have registered almost without a break the strength of my forearm.

“ From that time up to 1862 I handled at times as heavy a weight as 50 kilogrammes. During the last three years, from 1886 to 1889, the maximum I could master was 38 kilogrammes. This year the maximum has been before the injections, 37 kilogrammes; after the first injection it rose to 44 kilogrammes.

“ In the case of the digestion being good and the other functions in satisfying working order, one finds that at the same time of the day the strength, when measured with a dynamometer, varies at the utmost from five to six kilogrammes.

“ But it is necessary, in order to secure accurate readings, that the patient always grasp the instrument exactly in the same manner, and that full strength be used at each time.

“ I have never lost sight of these requirements,
“ and it is for that reason that I can confidently
“ say that what I have gained is of considerable
“ import.

“ I instituted comparative measurements of the
“ stream of urine before and after the first injection.

“ The circumstances in both cases were identical. The emissions which I compared followed upon meals of the same kind, that is to say, meals at which the liquid and solid food of which I partook were of the same sort and quality.

“ The average length of the stream during the ten days which preceded the first injection was inferior of at least a fourth to the length reached by it during the twenty days which followed.

“ There can, therefore, be no doubt that the power of the spinal cord upon the bladder has considerably increased.

“ Of all infirmities which befall old age, the hardest to bear is perhaps the weakening of the power of defecation.

“ The expulsion of feces had become for the last ten years exceedingly laborious with me; it had even become impossible without the help of purgative remedies and other artificial means.

“ I regularly made use of laxatives, with a view less to combat constipation, which was seldom considerable, than to increase the moving power of the walls of the intestinal tract.

“ Within the fortnight which followed upon the first injection, a radical change intervened in the reflex action of defecation.

“ On one hand the need of laxatives was much reduced, and on the other the expulsion of the most obstinate feces could take place without mechanical assistance and also without enema.

“ There is a distinct return to the normal condition which existed many years ago.

“ I shall further add that brain-work has also become more easy than it had been for a very long time, and that I have regained on this ground all that I had lost.

“ Finally I can, without false modesty, say that other functions which had not been entirely obliterated, but whose power had been waning, have undergone considerable and decided improvement.”

This communication, made by so distinguished a man as Dr. Brown-Séquard, ought, one should think, to have created a deep sensation in the scientific world. However, this was not the case. The members of the Biological Society were astounded, and thought at the time that their President had been suddenly struck mad. They little guessed at that moment that this discovery was soon to open a new outlook to medicine, and that in the course of years it would utterly transform therapeutical methods. For have we not seen the medical authorities of all nations to adopt Brown-Séquard's principles, and in turn to introduce to scientific bodies the whole scale of serums, from the serum against diphtheria to the serum against tuberculosis. Every day we hear of some new communications, and people have by this time ceased to sneer at them. It is now universally recognised that it is in this direction that the future of medical science lies,

and that it is only by means of new methods that we can hope to stamp out finally the ever-increasing scourge of diseases, hitherto considered as incurable, and which levy such a heavy toll on our modern civilisation.

In spite of the reception with which his declaration had met, Brown-Séquard did not lose courage, and pursued his work more actively than ever. Soon, however, a certain number of medical practitioners in France and abroad took up the master's experiments, and zealously communicated to him the results of their observations.

As to me, struck by the importance of the communication made by the learned Professor, and foreseeing the beneficial effects of the application of this new power, I resolved to study it without delay. An opportunity for doing this was soon at hand. One of my neighbours, M. Masseron, a sculptor, of 7, Rue de la Fidélité, in Paris, whose medical adviser I had been for eighteen years, begged of me that I should treat him with the Séquardian serum. The attempt proved a success which passed all our expectations. The best we can do is to reproduce the observation of this case in the very terms in which it was communicated to the Biological Society of Paris by Brown-Séquard on November 7th, 1890, and inserted in the Memoirs of the said Society:

OBSERVATION I.*

M. Masseron, a sculptor, sixty-nine years of age, of a sanguine temperament, possessing a muscular strength much above the average, enjoying an excellent appetite, which he indulged without exaggeration, a man of considerable intellectual activity, had never been ill before the year 1887. In July of that year he was at work in his garden under a burning sun, when suddenly and without any sensation of pain, he fell to the ground, his legs refusing to do their service. He was unable to rise without assistance, and it was only after the lapse of several days that he began to walk again. Since then his lower limbs had always felt heavy and weak. Though the paraplegia was not complete, the nervous influx was insufficient to secure the normal working of the legs.

By degrees new symptoms appeared, namely, obstinate constipation, incontinence of urine during the night, almost continuous catarrh of the bronchi, slight malleolar œdema in the evening, excessive obesity, such were the discomfortable signs which made their appearance in succession. As regards the mental condition of the patient, his habitual cheerfulness had vanished, his memory had been considerably affected, and his power to work had almost entirely gone.

In December last M. Masseron could no longer leave his rooms, and his strength was declining

* See "Force et Santé, la Vie prolongée par la Méthode de Brown-Séquard," Part I, page 21 (published by the Author, 1891).

very rapidly when he suddenly was taken very ill with influenza.

As I was obliged to leave for several weeks, I put my patient into the hands of Dr. Caresme. In spite of the efforts of my learned colleague, M. Masseron was getting every day worse. When I came back I found that his condition left little room for doubt with regard to the unavoidable end, which I considered to be very near. The heart was much weakened, the œdema had spread to the legs, the thighs, and the peritoneum; the lungs were obstructed throughout, the bronchi were choked with secretions of which the cough was unable to rid the patient, a state of things which rendered the process of breathing very difficult; there was intense fever, appetite was absent, delirium almost continuous. M. Masseron's strength had so much declined that he was no longer able to move in his bed. The evacuation of urine and of feces had become involuntary. In a word, the patient's condition was at the lowest. By dint of great care and attentive nursing M. Masseron reached, with alternations of periods of improvement and of relapse, the month of May, without, however, giving me the slightest motive to hope that I should ever be in a position to put him on his feet again.

It was at this stage that M. Masseron asked me to give him injections after the method of Professor Brown-Séquard. He was so pressing that I at last consented to give the method of the illustrious master a trial. Once I had

gathered all available information with regard to the *modus operandi*, I made the necessary preparations for the first séance, which took place on May 21st, 1890.

During ten successive days I made three injections every day, leaving an interval of a quarter of an hour between two successive injections. Each injection measured one cubic centimeter of orchitic fluid. The animal chosen was the guinea-pig, taken at the age of about three months.*

The liquid used was fresh, and filtered through a Pasteur filter. The necessary antiseptic and aseptic precautions had been taken with all possible care.

The first four meetings produced great agitation during the night; there was also some violent shivering. But in spite of the absolute want of sleep, the patient was already less dejected during the day on which the second séance had taken place; his voice had become less feeble, and he could slightly move in his bed.

What struck me most was the gradual improvement in the mental condition of the patient, which seemed to be better every day. The smile which played on M. Masseron's face at each of my visits to him impressed me as being a reflection of the hope that again took possession of

* M. Hénocque has ascertained with absolute accuracy that the male guinea-pigs begin to copulate efficiently at as early an age as two months, and Brown-Séquard teaches that the orchitic fluid of guinea-pigs of the age of from two to four months is more powerful than the fluid extracted from older animals.

him. On the sixth day the general improvement had become very noticeable. The heart was stronger, the urine more abundant, and the sphincters had regained in tonus. On the ninth day the incontinence of urine had almost entirely ceased, the feces could be retained as well as the enemata. The patient was now able to sit up in his bed without assistance; the swelling of the abdomen had subsided, the lower limbs were no longer so hard, and were also reduced in volume; the œdema was waning, breathing and expectoration were easier, the fever had abated, and the appetite was coming back. M. Masseron felt as if he were rising from the dead. On the tenth day he left his bed almost unaided, and stayed out of it for about an hour. On the eleventh day he walked a few paces in his room without fatigue, and on the following day I found him, to my utter astonishment, down in his studio on the lower story. I had suspended the treatment for the last two days to give the thighs and arms a rest, as they had become sensitive through the great number of injections made. On the 10th of June, that is to say, after ten days of rest, I resumed it, and we had seven successive meetings up to the 17th of June. The improvement had continued up to the 8th of June, but had remained stationary during two days as the result of a slight attack of indigestion; this had determined me to resume the treatment. No later than from the 12th the improvement again progressed, and this time rapidly. The patient had regained his former high spirits, his utterance was unimpeded

and strong, the faculty to work was again almost complete. M. Masseron was now working several hours a day at his yearly album with an ardour he had not experienced for the last two years.

On the 17th, the patient feeling very well, I suspended the treatment anew. Improvement continued. M. Masseron no longer coughed; he slept the whole night, ate with great appetite, and his digestion was all that could be desired. He walked without the help of a stick, kept an eye on his studio, and for the first time went out in the middle of the day for a short constitutional.

On the 27th of June he went from Saint-Laurent to the Rue de Rivoli, by way of walking along the boulevards.

On the 1st of July I resumed the treatment, which had been interrupted on June 27th, and proceeded with five more sittings up to the 20th. M. Masseron was then as well as possible. The heart had entirely resumed its functions; the œdema had disappeared for over a fortnight and made no reappearance, even in the evening; breathing left nothing to be desired, the cough had ceased; the nights were good, the appetite was excellent; the generative organs seemed to be disposed to wake up from their torpor, the mind was free, lively and cheerful. Only the legs, though much stronger than they had ever been for the last eighteen months, were still weak.

M. Masseron went to Pierrefitte in the country on July 25th. Since the 20th of the same month, treatment of any description has been dispensed with, and the cure, far from being checked in

its progress, has, for the last three months, only become more complete.

M. Masseron had in all twenty-two meetings, with one hundred and sixteen injections, each of a cubic centimeter of orchitic fluid extracted from young guinea-pigs. No inflammatory complication arising from the injections has been observed.

If we consider (1) the wretched state in which the patient was in when I began to apply the method on him, (2) the complete cessation of any other medication, we cannot fail to admit that it is only to the injections of orchitic fluid that the rapid recovery of the patient's strength and the return of his health can be attributed.

One may also conclude that when the injections are made with all necessary precautions, risks of any kind are entirely absent. Up to this day I have made over fifty thousand of them without having observed the slightest accident.

Since that time the condition of M. Masseron has been maintained, and as soon as some incontinence of urine reappears—this occurred several times at long intervals—one or two injections are sufficient to meet the case.

My first cure by means of the Séquardian serum could but encourage me in my resolution to devote myself exclusively to the application of the new method.

Had I not indeed obtained an unhopèd-for and convincing success?

When back from a journey to Algeria I had attended my patient afresh, he had just been

taken ill with influenza. During my absence all those who knew him and the doctor who had taken my place, in particular, considered him as lost.

The remedies which I had applied had certainly not been without effect; but the improvement secured was so little and was so often entirely stopped through repeated relapses, that I began to despair of his ever getting cured when he asked me to give him injections of Séquardian serum.

In consequence, it is surely to the serum alone that this happy result was due, namely, the complete recovery of M. Masseron, who could not give me a surer token of his gratefulness than in authorising me to publish his name in this work, so that no one may put in doubt the scrupulous veracity of the facts which I have just expounded.

Henceforth I could not doubt that a new force had been discovered, for as soon as I had experimented the Brown-Séquard method upon M. Masseron I gave up every other medication and suspended the treatment previously described by my colleague and by me.

Further, at that time Professor Brown-Séquard had only applied his method to old men in whom decrepitude was the result of age, whilst I had experimented it on an old man weakened by illness; the case was, therefore, all the more remarkable.

How great the scope of the applications of this method is, the observations contained in this book will clearly show.

If I have given the first place to the application made by me on M. Masseron, it is because it was the first experimental proof I acquired of the power on man, even when ill, of the injections with the fluid extracted from the testes of living or freshly-killed animals.



CHAPTER II.

*Communication of Professor Brown-Séquard to the
Biological Society of Paris.**

*Prominent part played by the testes in the system—Cripples
— The weak — Eunuchs — Deductions drawn by Brown-
Séquard from experiments made upon himself with orchitic
fluid ; its stimulating power upon animals and men —
The tired dog — The leading mare.*

“ The psychological and clinical history of the
“ testes is full of interesting facts with which
“ everybody is conversant, and which leave no
“ doubt as to the important part played by these
“ organs.

“ Everyone is aware that individuals who
“ during childhood have, either through illness
“ or other causes, lost their testicles, and also
“ those people with whom these organs have re-
“ mained in the abdomen—in which case they
“ are unable to perform their functions—are very
“ inferior to other men as regards intelligence,
“ morality, and physical power.

* Archives de physiologie (October 1889).

“ They may be considered as degraded beings.

“ There can be no doubt for anyone that these
“ facts are evidence of the important contribution
“ of testes to the development and maintenance
“ of the noblest and most useful attributes of man.

“ When the French want to designate an active,
“ intelligent, open, honest, and courageous strong
“ man, they say: ‘ He is a downright male.’ It is
“ also well known that in healthy men the variety
“ in the degree of cerebral and medullar power—
“ that is to say, of the spinal cord—is in direct
“ proportion to their orchitic power, which latter
“ is also extremely varied according to indi-
“ viduals; so that we may say that the greater the
“ seminal activity the greater the power of the
“ nervous curtus.

“ It is a matter of universal knowledge that
“ with individuals whose testes are diseased, as
“ well as with those who make an excessive use
“ of copulation or are given to masturbation, but
“ especially with those who suffer from seminal
“ losses, there is a great diminution of physical
“ and mental force.

“ Lallemand’s highly instructive book on in-
“ voluntary seminal losses is full of decisive facts
“ with regard to this question.

“ The study of facts shows that in these cases
“ there is, beside the disastrous effects which may
“ be produced through the irritation of the genital
“ organs, also to be observed a diminution in
“ strength, similar to the one noticed in eunuchs.
“ Such a diminution is unquestionably produced
“ through the blood not containing a sufficient
“ quantum of the active elements with which the
“ testes supply it by way of resorption, this
“ poverty in elements being brought about by
“ the frequent seminal emissions.

“ Facts of quite a different nature also point to
“ the conclusion that the resorption of certain
“ substances contained in sperm causes an in-
“ crease of the powers of the nervous centres.

“ Well-organised men who, from the age of
“ twenty to thirty-five, remain for some reason or
“ other absolutely without sexual intercourse or
“ without spending seed in any way but occasion-
“ ally in an erotic dream, live in a state of exalta-
“ tion which is accompanied by a mental and
“ physical activity, which may be morbid, but
“ which is none the less undoubtedly great.

“ This state of seminal repletion proves the
“ dynamogenous power of seminal elements re-
“ sorbed, as well as the facts corresponding to
“ spermatic anæmia.

“ During the last few months I have received
“ the confidences of many a man of between
“ forty-five and fifty-five years of age. They
“ assured me that since their sexual powers had
“ somewhat diminished, they had observed that
“ after a coition their physical and intellectual
“ powers became weakened, but these afterwards
“ increased again gradually until the subsequent
“ coitus which they were able to perform within
“ two to fourteen days after the previous one,
“ without sensation of any appreciable fatigue.
“ Coition, as I have said, diminished their activity,
“ but in the measure as their provision of sperm
“ was renewed, their activity again increased in
“ all of them, and in some of them very consider-
“ ably indeed.

“ These facts, and some others also, have for
“ a long time back led me to think that the weak-
“ ness in old men is partly due to the gradual
“ diminution of the activity of the testes.

“ In a course of lectures, given at the Faculty
“ of Medicine of Paris in 1869, I had already

“pointed out that if it were possible to inject
“without danger some sperm of a vigorous
“animal into the veins of an old man, the result
“would probably be a considerable improvement
“in the weakened powers of this individual.

“Ideas of the same order led me, in 1875, to
“make a great number of experiments, some of
“which yielded very interesting results; one of
“them showed very graphically the considerable
“effect which the testes of a young animal may
“have upon an old dog.

“For several years I have been carrying in my
“head the idea of making under the skin of old
“and weakened animals of the male sex injections
“with a fluid extracted from the testicles
“of young and vigorous mammalia.

“Experiments made nine months ago upon
“old rabbits having shown the absence of real
“danger from the process, as well as the importance
“of its use, I decided to institute upon
“myself researches which, to my mind, are to
“prove much more decisive, from every point of
“view, than those made upon animals.”

Thus it was that Brown-Séquard expressed himself in the statement in which figures his first communication to the Biological Society of Paris, as regards the effects produced on man by subcutaneous injections made with a fluid extracted from the testes of living or freshly-killed animals.

After having stated the happy results which he had obtained upon himself, he added:—

“From these facts, as well as from others
“which I have not mentioned, it is obvious that
“all the functions which are dependent on the
“active power of the nervous centres, and espec-

ally of the spinal cord, have been considerably
and rapidly improved by the injections used.

The last of these injections was made on the
4th of June—that is to say, more than three
months and a half from this day.

During more than four weeks no change
was noticeable in my condition, and the im-
provement in all its manifestations had per-
sisted.

But since the 3rd of July I have observed a
rapid, though gradual, reversal, now almost
complete, of the weak condition which existed
before the first injection was made.

This gradual loss of strength is an excellent
counter-proof as regards the demonstration of
the happy influence exerted upon me by the
subcutaneous injections of a fluid extracted
from testes.”

His conclusion was as follows:—

In a considerable number of cases injections
similar to mine have been made without letting
the individuals experienced upon know that the
aim was to increase their strength, though this
aim was reached.

Consequently the cases which I have described
had nothing to do with my personal idiosyncrasy,
neither could there be any question of anti-sug-
gestion or hypnotisation; it is thus quite evident
that the increase in the power of the nervous
centres is not the result of an illusion, but of
a special action of the liquid injected.”

The orchitic fluid is consequently a force of
which animals and man furnish irrefutable
proofs.*

* The following facts stated in my book “*Force et Santé, la Vie prolongée par la méthode de Brown-Séguard*” (Part I, page 31), and which everyone has been in a position to observe, confirm the opinion of the Master.

Suppose a dog coming back with his master from a busy day out shooting; the dog is, as a matter of course, in an exhausted condition.

Being quite spent, he refuses to eat, and lies down; no call can make him budge; all he can do is to half open his eyes and slightly to move his tail to show that he is still alive; he is dominated by the want of rest. But should a bitch which is rutting enter at this very moment, the dog would at once pounce upon his feet and would sniff at her; he would get fired up, forget his fatigue, and if the bitch made off, he would, seized with the desire of lust, follow her, gay, alert, for several days, without effort, without food or drink, sustained by a strength which would keep down all his wants and victoriously combat his weariness.

Another fact, just as conclusive as the preceding one, and which may have come under everybody's notice, is the following:—

Suppose a stallion, put to a heavy cart, who has arrived at the bottom of a hill which he cannot climb without the help of a supplementary horse.

Instead of putting a second horse to the cart, just place at a few yards in front of the horse in the shaft a mare, which you oblige to pace on. Fired up by the presence of the mare, the horse feels that his genital organs are swelling and

are becoming tenser through the secretion of orchitic juice which soon overflows into the system; he neighs gleefully, and climbs up the incline without being aware that he is dragging behind him a burden which erstwhile seemed too heavy for his strength.

Is it necessary to remind anyone of the fatigues a man is capable of undergoing in presence of a woman whom he ardently desires to possess?

How many cases could I not quote, did I not fear to wear out the reader's attention, but which would only go to prove with still greater force the correctness of the theory here expounded.

However, what I have said will suffice to show clearly that the testicle produces, in certain given conditions, a special juice which supplies man as well as beast with an element of strength of considerable power.



CHAPTER III.

ORCHITINE.

What force is this which manifests itself at the precise moment when the genitals are in a special state of eretism, in presence of the female? This force is a material one, and is represented by the juice secreted in the testicle. This latter organ answers the double function of secretion and resorption, which it fulfils under the influence of genetic excitation, but only at this precise moment. This force, a real essence of life, under the influence of which man and beast acquire creative power, is secreted by the testicle and distributed throughout the system by means of the vessels which take it at its very source. It is this force which enables the dog, exhausted after a long and fatiguing day out hunting, to display a considerable amount of new strength, sufficient to cause him to follow the female that excites him, without his having previously taken any sort of rest or food.

The testicular juice, to which we shall henceforth apply the name of orchitine (I beg to draw the attention of the reader to this essential point), is only produced in the presence of the female, or under the influence of a morbid excitation of the imagination. During the whole time this excitation lasts, an abundant affluxion of orchitine into the gland, which swells and becomes tenses, takes place. At the same time, and according to a duplicated effect, the resorption in the system itself goes on, whilst the orchitine thus distributed counterbalances the loss of strength which the animal undergoes up to the time of performance of the act of copulation. Once the act is performed, the production of orchitine ceases, but the resorption goes on until the quantum produced and stored in the testicle is fully spent. It is to this second part of the function of resorption which is accomplished during the time of rest which follows coition that the restoration of forces spent in coition itself is due.

The above point is of paramount importance, as it fixes the only time at which this unsurpassed, regenerative principle, viz., orchitine, can be collected at the source of production itself. We shall be obliged, during the course of this book, to refer to this point again and again.

There exists a constant relation, during the life of man and animals, between the appearance

of orchitine in the testicle and the development of physical and intellectual powers. The child becomes a man with the appearance of orchitine in its system; the man has become old when, in spite of the desire he may feel in the presence of a woman, his testicle no longer secretes the precious fluid.

The strength of an individual is in direct ratio of his power of producing orchitic fluid. When, through age or illness, the production of this fluid diminishes, the weakening of the whole system follows accordingly. If the production ceases altogether, physical and mental decay very soon sets in, infirmities make their appearance, and grow worse until death at last intervenes. Brown-Séguard, in accordance with the clear logic which during his whole life sustained his reasoning, founded his scientific method upon the incontrovertible fact that man's vital functions do work harmoniously and fully, and thus secure his strength only so long as orchitine is produced in the testicle. Upon the strength of his conviction, the hardy Professor of the Collège de France did not hesitate to introduce, by means of subcutaneous injections into his blood, and at great risk to himself, the fluid extracted from the testicles of healthy animals, young and vigorous, in order to supply his system with the fluid which he himself no longer produced.

The first communication to the Biological Society of Paris which I have reproduced in extenso at the beginning of this book, tells us how complete the success of this first experiment had been. The Master was enabled to resume, in the full possession of his renewed physical and mental faculties, his lectures and also his work at the laboratory, to continue it through several years, and thus to secure to his discovery its well-deserved triumph.

Orchitine must not be confused with spermin. These two products of secretion are quite distinct from one another, and possess properties of very dissimilar nature. Spermin is a fecundating agent, and nothing more; orchitine, on the other hand, is a force, under the impulsion of which the sexual organs acquire the power of copulation, and which makes good the loss of strength caused to the individual by the spasm of coition. Spermin also is a force, but the part it plays, as may be seen, is exterior to the individual that has produced it. Orchitine, on the contrary, never leaves the individual: its action is interior. Formed in the testicle, it is at once distributed through the system, where it maintains the harmony of the functions of innervation.

The man who has not lost his natural aptitude to genetic excitation at the contact of woman, and who, under the influence of desire, produces

orchitine, feels that his genital organs increase in volume, and that they contract under the action of this fluid. He may then utilise this force which he has just created, not only in spending it in the act of generation, but also to the benefit of his own reconstitution. To ensure this benefit, he must save the produce due to the excitation which the presence of woman has called forth, and rigorously abstain from the act of copulation. Then the resorption of orchitine will take place as soon as the excitation ceases, and its passage into the circulation, where it gets mixed with the blood, produces a beneficial stimulus upon the nervous centres, the powers of which it increases.

This fact explains how the presence of a woman, beloved and ardently desired, may benefit a man who, still young, is convalescent after a grave illness or weakened by the loss of blood or by some other cause; it explains how this presence may contribute more powerfully to the rapid restoration of his health and strength than all medicines in the world: at the contact of the woman he loves the genetic excitation produces orchitine, the resorption of which brings about the return of the man's strength. This sexual action is so potent that no other woman, were she a mother or a cherished sister, could by her presence call forth the same dynamogenous power.

For a similar reason a male person suffering from impotency, or an old man, who, in spite of the desire which they experience in the presence of a woman they love, do not produce any orchitine, will draw no benefit from the contact of the woman. This barren desire will, on the contrary, be a cause of loss of strength. The presence of a lady friend, or a mother or sister, will exert on them a much more beneficial influence. In this latter case it is the moral influence which alone acts; in the former case this influence is reinforced by a material agent, palpable, apt to regenerate life, which invades the system, to which it restores the lost strength. By this agent we distinctly mean orchitine.



CHAPTER IV.*

Effects produced by orchitine upon man in youth and good health — On old men — On weak persons at different ages — On ill people — Effects of the treatment when combined with the application of ordinary therapy.

I now proceed to examine the effects of orchitine on the individual:—

1. When young and in perfect health.
2. When old and complaining only of senility.
3. When weak, at any age, from whatever cause, and without the complication of any organic lesion.
4. Lastly, when ill.

When used on a man in youth and good health there is no apparent modification in the physiological functions worth mentioning.

In the case of an old man simply suffering from ordinary senility with its accompanying ailments, orchitine, if the activity of the functions is not entirely destroyed, but only lessened, calls forth very rapidly a progressive restoration of

* From my book "Force et Santé, la Vie prolongée par la méthode Brown-Séguard" (Part I, page 81).

all physiological functions. A very rare occurrence is to see that, after ten or twenty sittings, the patient has not recovered a good deal of his lost strength.

I am glad to say that on this point my personal observations, which are numerous, thoroughly confirm the first communication of Brown-Séquard, which I have reproduced verbatim in the first pages of this book.

The development of strength in human beings from the age of puberty to confirmed old age may, in its process, readily be compared to the journey of a tourist ascending a mountain in order to reach the table-land which crowns it. Whilst he is climbing uphill, his strength and his faculties increase in power. Once he has reached the platform he becomes aware that his strength and faculties now remain stationary. Constantly walking on, he needs must arrive at the edge of the descending slope; once there he may notice that his physical and mental powers gradually sink.

Senility begins at the very moment when he feels compelled to descend.

The great problem so magnificently solved by the discovery of Brown-Séquard was to know whether it was possible to prolong the stay on the high table-land, and to retard the unavoidable descent.

The descent is to come at its hour, whatever the means employed to avoid it may be; but as soon as it has begun—and there lies the crux of the whole matter — the Séquardian serum makes it possible for the traveller easily to retrace his steps if it is used as soon as his functional aptitudes show signs of weakening.

All the time during which the ill effects of age have been stayed, thanks to the method, and which may spread over years of renewed full health and vigour, is so much gained upon senility, and may consequently be considered as an indisputable prolongation of life.

I am far from trying to press upon my readers the belief that the method of Brown-Séquard ensures immortality; I only want to make them understand that it is capable of putting off the end for a more or less considerable time, and that it renders the last stages slower and easier, by keeping away infirmities which prove so hard to bear during the last part of life.

As a logical sequence, those who follow this hypodermic medication ought to die peacefully at a very old age, without knowing all its cruel drawbacks, and thus secure the least painful end.

As to the exact height at which the table-land is pitched, as well as to the extent of it, there is no small difficulty in defining these for one and all. Some people will reach the end of it at the

age of thirty, whilst others will scarcely do so at fifty. However, one may say that senility usually begins between forty-five and fifty-five.

On the weak, of any category or of any age, who do not suffer from some organic alteration, if their weakness be due to a defect in their constitution, or to corporal or mental exertion, to excesses or privation, to pains, to disregard of the laws of hygiene, in a word, to anything which may cause a loss of strength or prevent the development of it, the influence of illness being of course excluded, on these orchitine may be used with full confidence, as it rapidly produces effects which border on the miraculous.

Cases of that kind, in which from five to ten injections do not suffice to secure a complete recovery, are rare indeed.

It is specially to be noted that in all the cases which we have quoted, the Séquardian serum is by itself sufficient to effect the recovery of strength, without additional help from any other medication.

Matters, however, stand differently when the physical and mental depression is due to some organic lesion or to some disease.

With people who are ill, that is to say, in pathological cases, orchitine can also be found useful, but only as an auxiliary, more or less potent, to ordinary therapy.

Orchitine acts always in the same manner as a regenerator of strength, namely, by giving the physiological functions the vitality they have lost; it is thus to be considered as their most powerful regulator. As a consequence, it helps other remedies to effect the maximum of their possible action, which consists in curing disease, or, at any rate, in prolonging life.

In valvular diseases, in cases of degeneration of the cardiac muscle itself, when the central organ of circulation has lost much of its strength, it has often come under my notice that digitalis, coffein, strophanthus, and other drugs of the same kind produced no effect whatever when used by themselves, but that they resumed all their ordinary action when they were used simultaneously with orchitine: the physiological functions of the heart became soon regular again, and the patient who had been doomed to imminent death was enabled to live many more years of a life exempt from the troubles by which it had been formerly beset.

What I have just said with regard to the heart applies equally well to other organs, as will be shown in the observations quoted further. In the treatment of anæmia, for instance, the action of the best amongst ferruginous preparations increases tenfold under the influence of a simultaneous use of injections of orchitine. In every

kind of diathesis, in all infectious diseases caused by virus or by microbes, the action of the orchitic fluid is the same, namely, it renders more effective the action of the remedies to which recourse is taken to fight them. At first Brown-Séquard thought that the only effect orchitine could have was to restore in old men their lost virility, and, by means of the faculty regained, to improve the other vital energies which had waned at the same time.

This conception was soon to prove fallacious. Facts were not slow to show that orchitine could go much further afield in the cure of disease. I was the first to observe that the absence of orchitine or the diminution of its production within the testicle was regularly concomitant with the existence of morbid phenomena.

Whether this state of vacuity of the testicle is the result of the resorption of too great a quantity of liquid in the system, used in fighting the disease, or whether the production of the liquid itself diminishes under the influence of illness, I do not know; the fact none the less exists. It was difficult to resist the temptation to draw from this observation the inference that the introduction into the circulation of a liquid of the same nature as the deficient orchitine, as taken from a young animal, vigorous and healthy, would not only arrest the loss of strength

of the patient, but also multiply his chances to emerge victorious from the struggle, and to abridge the duration of his convalescence. I willingly own that, moved by logic, I yielded to the temptation, and made subcutaneous injections on a certain number of patients who asked me for them. The first of these patients whom I treated, M. Masseron, obtained such strikingly good results from the treatment that Brown-Séquard communicated the observation to the Biological Society of Paris.

Once the impulse had been given by me, and Brown-Séquard had taken matters in hand, the method quickly gained ground. A great number of medical practitioners soon used it, and within a short time the Master was put in a position to read to the Academy of Science of Paris the result of the experiments of over twelve hundred doctors, from France and from abroad. The reader will find this remarkable report printed in extenso in the first chapter of Part II. of this book.

CHAPTER V.*

Immediate effects, local and general, which are produced during and after inoculation — Physiological effects upon the spinal cord, the brain and the sympathetic nerve.

During inoculation, the patient feels an insignificant pain recalling the one usually produced by the pricking of a needle; he may also feel the introduction of orchitine into the tissues. This introduction, however, is in most cases hardly felt, though it causes at times a sharp pain of a very transient nature. It rarely lasts more than five minutes, and may be compared to the burning sensation called forth by the sting of a bee. Sometimes, but rarely, one or two drops of blood squeeze out when the needle is being withdrawn. But this is of very little importance.

When the method was first applied, there appeared nearly always signs of a general reaction, such as extreme lassitude, violent shivering, headache accompanied by a rise in the temperature of the body. These symptoms usually appeared in the night following upon the injections, and

* See "Force et Santé, la Vie prolongée" (Part I, page 86).

lasted sometimes as long as twenty-four hours. In most cases the place where the injection had been made showed signs of a slight lymphangitis, with swelling and induration of the tissues, there being present also persistent pain. These little troubles usually disappeared after two or three days, without leaving any evil trace behind them. However, matters did not always take such a favourable turn. At different times it happened that the injections were followed by boils, carbuncles, abscesses, gangrenous phlegmons, and Brown-Séquard himself nearly paid his first experiments with his life. All these accidents, the most trifling as well as the serious ones, were all due to the impurity of the liquids injected, and the want of cleanliness in the needles. We shall see in the following chapter how I succeeded in avoiding these drawbacks and these dangers.

As to the diverse effects of orchitine—(1) on the spinal cord, (2) on the brain, (3) on the sympathetic nerve—they are the following:—

On the spinal cord they are revealed by a greater activity of the muscular system; walking becomes easier, less tiring, and can be continued at a stretch a longer time than before; the pressure of the fingers and the traction of the arms increase in strength, as is easily shown by the dynamometer.

Further, there is the tonic action of orchitine on the cardiac muscle fibres, which is evidenced by a greater activity in the circulation of the blood, a diminution in the tension of the blood-vessels, and a strong and regular pulse; this action is in all its manifestations similar to the one produced by the use of digitalis.

Breathing also gains in strength and ease; in catarrhs there is considerable diminution in the production of mucosities, the bronchi are eased to the great benefit of the patient, and where emphysema is present the air-cells recover their elasticity in a comparatively short time; the sensation of choking diminishes, and walking up-hill becomes less laborious.

Digestion is favourably influenced; the appetite increases, and food is easily digested: this is usually one of the first beneficial effects to be noticed.

Should the bladder have lost to some extent its contractibility or only the sphincter be weakened, the force of the stream of urine soon increases, as well as the length of it.

In cases where the sphincter alone is concerned, the concomitant incontinence first diminishes, and finally disappears completely.

The action of orchitine on defecation is of the same order; feces are more easily expelled when the trouble is connected with slackness of the

large intestine; they can be retained if it is a case of relaxation of the sphincter.

One of the most unmistakable and most prompt manifestations of the power of orchitine on the spinal cord is the return of the faculty of erection in all cases where virility has not entirely disappeared.

We shall find, further, several very interesting observations which confirm my statement on these points.

One of the most curious effects of orchitic fluid is that it increases the temperature of the body when it has fallen below the normal, and that it lowers it when it has risen above, so that the same agent may have on the same individual two quite opposite effects in the two different cases quoted.

To make this plain, let us suppose a patient suffering from an acute malady of the respiratory organs. If we administer the Séquardian serum during the period of fever, when the temperature may rise as high as 102.2 or even 104 degrees Fahrenheit, we see the temperature being lowered by two and even nearly four degrees. But now take the patient at the time when the great depression of strength sets in, that is to say, at the beginning of convalescence. At that time the fever has ceased; now inject orchitine under the patient's skin, and you will see his tempera-

ture rise from 95 degrees to which it had fallen up to 97.7 and even 98.6 degrees.

This fact, which at first sight seems strange, only confirms once more that the essential effect of orchitine is to re-establish harmony in all physiological functions.

On the brain the effect of orchitine is to produce a greater activity of the organ, a greater aptness for work, a clearer memory, the disappearance of dizziness, a steadier gait, more energetic resolutions, rapidity in thinking and ease of elocution, suppleness of the movements of the tongue, the possibility of standing without fatigue the glare of lights, the noise of crowds, a theatrical performance, or a gambling-bout protracted far into the night, etc., etc.

Furthermore, the use of the serum brings back sleep to those who suffer from insomnia, or renders it calmer if it be agitated, thus producing real rest, on the invigorating influence of which it is useless to expatiate.

These are the usual effects achieved on healthy brains; the benefit accruing from the use of orchitine to diseased brains is no less remarkable. By increasing the activity of the circulation, the orchitic fluid assists the formation and resorption of the effused clot in apoplectic subjects. This fact explains how effects bordering the miraculous are brought about in certain cases of hemi-

plegy, and also how the swift disappearance of congestive headaches is effected in those who undergo the treatment.

The experiments made by Professor Mairé, of Montpellier, which are reported in this book, plainly show how beneficially the Séquardian serum acts in the most diverse cases of insanity.

But it is especially in hypochondriasis that we have been in a position to appreciate personally the rapidity with which results are obtained; it is indeed rare that after a few weeks of treatment the morose and even the hypochondriacs should not show a marked tendency to renewed cheerfulness.

To all those without exception, who have followed the treatment for a certain time, life seems again bright and worth living; this, forsooth, may be considered as an un hoped-for boon.

The sympathetic nerve, and, consequently, also the special muscular system which is under its dependence, benefit by the action of orchitine.

All we have said with regard to the heart, the stomach, the intestinal tract, the eyes, is an obvious proof of what we are asserting.

This special action on plain muscle fibres is often mistaken for that exerted upon the spinal cord; it is none the less existant.

CHAPTER VI.

Sterilisation of orchitine — Filtering: various processes — Sterilisation of the needle and the syringe — Choice of a syringe.

In the communication which Professor Brown-Séquard made before the Biological Society of Paris he gave a description of the general disturbances and the violent pains which the injections occasioned. In addition to this, there were accidents occurring only too frequently, which were due to septicemia, such as lymphangitis, boils, abscesses, phlegmons, following upon injections.

It was, of course, of the utmost urgency to prevent such occurrences, which were liable promptly to hinder the progress of the precious discovery.

The inconsiderate haste with which a great number of doctors in France, and especially in the United States, adopted into their daily practice a method which had scarcely come to light, and also their imprudence, their ignorance of

the dangers to which they exposed their patients, caused accidents of such gravity that the Séquardian injections were soon brought into disrepute with the public, above all in the United States. The effects of this unfortunate failure are still felt in America, where the medical practitioners, who have not ceased to labour under this first impression, hesitate to apply a method which has since evolved the most harmless of treatments.

I shall not recall here all the researches I was obliged to make, nor all the tentative methods I had to employ finally to obtain an absolutely pure liquid which could be kept indefinitely without the danger of its ever undergoing any alteration.

The history of all these scientific efforts has been given in my book, "Force et Santé," to which I refer the reader who may be desirous to know of the beginnings of the method. Here I shall content myself with saying that I was the first to obtain the indefinite conservation of orchitine in its full purity and its total harmlessness, without robbing it of its efficacy in any way whatsoever. The purity secured by my process is such that the liquid cannot be altered by either temperature, transport, or time. No one, up to that day, had been able to attain this result; the letter of a Professor of the Faculty of Medicine

of Bordeaux, of which I give the following extract, is there to prove my assertion;

“Your liquids preserve a perfect limpidity after having been exposed for a long time alternately to high and to low temperature. This result has never been attained with similar products, which usually turn turbid or become solid in a very short time.

“I should feel much obliged to you if you could give me some particulars about the process you use, as I wish to apply it myself to the conservation of certain kinds of virus.”

Furthermore, I have contributed without cessation to the vulgarizing of the method in securing the absolute harmlessness of the injections. I was, indeed, the first to keep the liquid obtained as pure as possible and in a perfectly sterilised state in ampullæ of glass, also completely sterilised and closed by means of the blow-pipe. In this way I supplied the medical practitioner with a remedy which not only was utterly harmless, but which was distributed in exact doses ready to inject at each meeting. At the same time I avoided the contamination which infallibly occurs when the operator is obliged to take from a phial until it is empty, and at intervals of several days, the quantity of liquid necessary at each meeting. All the chemists who since have put their liquids in ampullæ have done nothing else than imitate me.

The purity of the liquids I prepare is the principal reason of their harmlessness. This ab-

solute purity is due to the perfection of the means employed to secure sterilisation, and also to the special process of filtering used. This is the manner in which I proceed:—

After having reduced to a pulpy mass in a mortar the testicles of guinea-pigs, I pour over it an equal weight of chemically pure glycerine, at 86 degrees, sterilised at the temperature of 228: the whole is left to macerate during forty-eight hours. I introduce the mixture into the tube of a carbonic acid high-pressure filter of d'Arsonval, and submit it to a pressure of 100 atmospheres, which I contrive to maintain constantly above 80 as soon as I see that it tends to decrease. This is in reality the process of the Collège de France, which has been used by all chemists up to this day. Now, it must be said that practice has indisputably shown that the classical process, however correct it may be theoretically, is none the less insufficient. Brown-Séquard and d'Arsonval owned this themselves. At the time of the free distribution of liquid from the laboratory of the Collège de France to all medical men who asked for it, there was an accompanying note to every package recommending to suspend the injection of the orchitic fluid as soon as it would show signs to become turbid, a thing which usually happened between the fifteenth and twentieth day.

To remedy the insufficiency of the d'Arsonval filter, I put the liquid, at the moment it comes out of the carbonic acid pressure filter, into a long glass pipe, traversed from end to end by several wires of platinum, which are twisted into a bundle at the point where they emerge. Then I submit it for two hours to the continuous action of a powerful electric current. During the whole time I keep shaking the pipe. At last I give the operation the finishing touch by filtering the liquid over finely-porphyrised ferruginous dross. This second phase of sterilisation—electric current and filtering over ferruginous dross—is proceeded with only after the passage of the orchitic pulp through the d'Arsonval filter, when it has been macerated for the fourth time, as I shall show hereafter in the chapter dealing with the extraction of orchitine.

By means of this triple action I obtain the mother-liquor in a state of absolute purity, and capable of indefinite conservation.

There is no longer any accident due to septicemia to be afraid of when injecting orchitine into the system, on condition, however:—

1. That the skin, on the spot where the needle is to be introduced, be previously well cleansed with a pad of absorbent cotton-wool imbibed with pure sulphuric ether or with an antiseptic solution of bichloride of mercury. The operator

ought also to clean his fingers in the same manner, as they have to come into contact with the syringe, and have to be used to pinch the patient's skin.

2. That the syringe and the needle contain no element of fermentation.

The best syringe is, in my opinion, also the simplest; in other words, the ordinary Pravaz's syringe, with its glass cylinder and its glass piston. The secret as how to avoid any kind of accident arising from the use of the syringe consists in rinsing the interior of the cylinder before and after each meeting when injections are made. This is done in aspiring to the full, and rejecting eight or ten times in succession ordinary water, which has previously been boiled fast during half-an-hour, and which has sufficiently cooled in order not to make the cylinder burst when it comes into contact with the latter.

The needle must be made of iridised platinum. The surest and safest way to sterilise it is to pass it into the flame of a spirit-lamp before the injection is made, until it gets red hot. I recommend most emphatically not to touch with the fingers either the piston of the syringe or the portion of the needle which is to penetrate the tissues once it has been purified by the flame of the lamp. The advantages which this simple syringe presents are that it can be found every-

where, is cheap, and that all doctors and a great number of patients already possess it.

This syringe is quite sufficient. I have always used it, and never have had a single accident of septicemia to bewail. I by far prefer it to those improved instruments which need be taken to pieces and put together again before each sitting; for it is always during the handling of the instrument that contamination takes place.

With a liquid prepared according to the method which I have just indicated, and in using the ordinary syringe made entirely of glass, and fitted with a platinum needle previously reddened in the flame of the spirit-lamp, all necessary precautions having been taken, the injection of orchitine is a painless operation, is totally harmless, so that everyone can confidently perform it upon himself or upon his people.



CHAPTER VII.

*The injection — The most favourable place where to make it
— Preliminary precautions — How to push the needle into
the tissues.*

Is there any relation between the efficiency of the treatment and the place where the injection is made?

Brown-Séquard advised to inject simultaneously four parts of the body, namely, the thigh, the back, the trunk, and the arm. Georges Ville was of the opinion that the organ which produces orchitine was also the one most liable to ensure the proper diffusion of the liquid, and that it was in consequence advisable to inject the testicle itself. On the other hand, it was interesting to know whether a testicle which has lost the faculty of producing orchitine is nevertheless apt to help the diffusion of this agent injected directly into its tissue.

On the advice of the eminent Professor, I made comparative experiments on different animals, which proved quite conclusive. From these

experiments it is appropriate to deduct the following statements:—

1. The testicle of an old animal which has lost the faculty of producing orchitine may still be used as organ of diffusion, though there is in using it as such not the slightest advantage to be gained in contradistinction to any other part of the body.

2. From the point of view of the rapidity with which resorption takes place, the injection may be made indifferently in any part of the body.

3. One should absolutely avoid injecting the testicle, as this organ is exceedingly sensitive, and that not only pains, but also nervous accidents may be caused by injections being made in that part.

Consequently, the operator ought to make the injections into the most fleshy parts of the body at places which are least exposed to the friction arising from clothes, and which are not liable to interfere with the more ample movements indispensable to life in relation to surroundings. The superior external portion of the buttock, the back on each side of the vertebral column, the belly, seemed to me to be the places which ought to be used in preference to others.

On the contrary, the upper and the lower limbs ought to be left aside, as the injection there may cause some discomfort in the perform-

ance of movements. The belly is the most convenient place in the case of persons who make the injections themselves. It is also the part which is easiest to inject. There the needle penetrates the tissue without the slightest difficulty, and it can be pushed to its full length without risk of damaging the abdominal viscera. The only precaution to take in this case is to avoid, in pushing the needle, to traverse the superficial veins which are to be found in the skin. However, should this occur there would be no great harm done, especially if the veins were perforated through and through.

Preliminary Precautions.—The operator ought always, before each sitting, to wash his hands thoroughly with soap and in water which has been boiled; he should use a brush, and dry his hands with a scrupulously clean towel. Then he will take the ampulla from which to inject and make sure that it is quite limpid. If the liquid is milky or even of a dubious appearance, it means that the ampulla has not been well closed, or that one of its extremities has been broken. An ampulla which is not limpid must unhesitatingly be rejected.

Once the ampulla has been examined, it is necessary to cut off one of the extremities with a pair of scissors, and this being done, to take off the little splinters of glass which may have

remained adherent to the opening of the capsule. The ampulla, which has been previously sterilised in boiling water, is then turned with its opened end downward over a small glass; at this moment the other end of the ampulla is also cut off. Under the influence of atmospheric pressure orchitine will fall unaided into the small glass, into which the Pravaz's syringe without its needle will immediately be dipped and the liquid aspired.

Before emptying the ampulla into the small glass, the operator must keep his syringe ready for use, by aspiring and rejecting eight or ten times in succession, boiled water, the temperature of which he will have allowed to lower sufficiently in order to prevent the cylinder of the syringe from bursting.

The needle must be removed before pumping in the water, but has to be replaced before pushing it out again, so that it may take part in the cleansing which is aimed at. Once the syringe is filled with orchitine and the needle firmly rivetted to the syringe, the needle will be passed into the flame of a small spirit-lamp and reddened. Then the syringe will be placed on its open case in such a manner that the needle should not rest upon it and should remain free in the air. The operator then imbibes the end of a scrupulously clean towel into the antiseptic solution — I am giving the formula below — of

which he has poured the value of about a wine-glass full into a basin. The place where the injection is to be made will then be cleansed. The best way to do this is to use a pad of absorbent cotton-wool imbibed with sulphuric ether. He then takes the syringe, and, placing it vertically, the sharp end of the needle being turned upwards, he pushes the piston gently until the orchitine, pressing out the air contained in the needle, begins to run out at the end. These preliminary precautions having been taken, the moment to inject has arrived. As much as one can seize of the patient's skin is pinched at the place chosen, and, pressing the skin into a substantial fold, which is kept in position between the thumb and the index of the left hand, the operator, holding the syringe in his right hand as he would do a pen, places the sharp end of the needle against the fold which is being held with the left hand, in a perpendicular direction to the fold; then he will give a vigorous push without hesitating, so as to make the needle completely disappear in the tissues. Still holding the syringe after the manner of a pen, he will push the piston gently to the end of its course, introducing drop by drop the precious liquor into the tissues. To draw the needle out, he need only press the skin slightly with the left hand and cautiously draw out the syringe with the right. The injection being now made, the

skin is cleansed with the antiseptic solution or with ether; no dressing is needed. The needle is taken off the syringe; these two objects are cleansed inside and outside with boiled water and then with ether, and afterwards placed again into their case until the next sitting, when all the different phases of the process here indicated will have to be gone through again in the same manner.

There must be no hesitation in pushing the needle to its full length into the tissues before injecting; this precaution will prevent any consecutive pain. If, on the contrary, the needle has penetrated incompletely, the injection takes place in the depth of the skin only, a process which calls forth an extremely sharp pain, which often lasts for several hours. The resorption of orchitine in a tissue which pain causes to tighten and to contract, can only be secured in a slow and unsatisfactory manner. Consequently, I beg to insist strongly on the necessity there is to make deep injections.

FORMULA OF THE ANTISEPTIC SOLUTION.

Bichloride of mercury ... gr. $15\frac{1}{2}$ (1 gramme)
Salicylate of sodium ... gr. 31 (2 grammes)
Distilled water ... 1.7598 pint (1,000 grammes)

Dissolve secundum artem and filter.

This solution preserves its properties until the very end. It must be kept in a safe place, out of the reach of children, as if it were taken by the mouth it would act as a real poison.

The boiled water used for cleansing must be renewed at each sitting.

Once the injection is made, there is nothing to prevent the patient from resuming his work immediately.

There is no rule to be laid down as regards the time at which the injection ought to be made. However, I should advise to make it preferably in the morning, after the rest of the night, and before breakfast. I should also like the patient to stay in bed for about half-an-hour after the injection is made. If this rule is adhered to, the absorption of the orchitine will be completed when the patient takes up again the usual trend of his occupations.



CHAPTER VIII.

What kind of animal to choose—The right moment when to proceed to the ablation—The importance of it—Why I give the preference to the guinea-pig—My method of proceeding.

At the very outset, the choice of the animal attracted the close attention of the adepts of the method. Any amount of experiences of the most various descriptions were made on birds and mammalia.

Amongst birds, the cock and the duck became the objects of special study; however, I owe it to truth to say that the results did not answer the expectations of experimenters. Mammalia, on the contrary, were soon acknowledged as being the most apt to furnish orchitine. Amongst these the attention became directed especially towards the animals which are distinguished by the development of their organs and by their prolific qualities, such as the bull, the horse, the ram, the monkey, the he-goat, the dog, the cat, the rabbit, and the guinea-pig, which one and all had their adepts who were not without good reasons, at

least apparently so, with which to justify their preference. On all these animals which I have just quoted, I made myself comparative experiments, which I had occasion to repeat often with a view to gain a personal opinion on the subject, and also to test the reasons put forward by my colleagues. To tell the truth, I found, after careful study, that the reasons given to justify the preferences of my colleagues were not conclusive, and that their excellence was more apparent than real with regard to the special merits of the juice produced by such and such an animal. In my opinion, orchitine may be taken indifferently from the bull, the horse, the ram, the he-goat, the monkey, the dog, the cat, the rabbit, or the guinea-pig.

The dynamogenous power of every one of these juices is of nearly the same order, if they be taken under identical conditions of age, health, and, above all, of genetic excitation.

Youth, health, and genetic excitation are three indispensable conditions which must be united in the animals in which the ablation of the testicles is to be performed with a view of obtaining orchitine. Should only one of these three conditions be absent, the liquids obtained would be inferior as to the quantity and the quality of their active principle.

I shall presently prove (1) that whilst the genetic excitation lasts the testicle contains a quantity of liquid by far superior to the one which it contains at any other moment; (2) that the liquid obtained at that precise moment possesses regenerative properties which do not exist otherwise or hardly do. With animals which are old and ill, the juice produced by the testicle at the moment of genetic excitation is altered as to quantity and quality.

First Experiment.—From a batch of male guinea-pigs of the age of three to four months I took at random twenty individuals, which I killed, and on which I made the ablation of the testicles. These testicles were pounded in a glass mortar and reduced to a pulpous mass, which was found to be of a total weight of $98\frac{1}{2}$ grammes.

Second Experiment.—From the same batch I took again at random twenty other guinea-pigs, which I placed in a separate case where five female guinea-pigs had been penned up. As the genetic excitation made its appearance in an individual I instantly killed it, and took off immediately its organs. This process I followed up, until every one of the individuals had been sacrificed. All the testicles, having been reduced to a pulpous mass, yielded a weight of 106 grammes, that is to say, $7\frac{1}{2}$ grammes more than in the preceding case.

Third Experiment.—I added to the pulpos mass contained in the first mortar $98\frac{1}{2}$ grammes of pure glycerine at 86° Fahrenheit, sterilised by ebullition at 230° , that is to say, a weight equal to the one of the orchitic juice itself. I left it to macerate during forty-eight hours, and filtered it with the d'Arsonval filter until the whole had passed. The liquid thus obtained weighed exactly 87 grammes; the residual mass in the filter and on the interior sides of the mortar weighed 110 grammes.

Fourth Experiment.—To the pulpos mass contained in the second mortar I added 106 grammes of chemically pure glycerine at 86° Fahrenheit, sterilised at 230° , namely, a weight equal to the one of the lump of orchitic pulp. After having left the mixture to macerate for forty-eight hours, I filtered it with the d'Arsonval filter until the whole had passed, and obtained 101 grammes 20 centigrammes of liquid and about 111 grammes of residual matter contained in the filter and on the interior sides of the mortar.

Conclusions.—The testicular juice obtained at any other time than during the genetic excitation weighs less than the testicular juice obtained during the genetic excitation itself. The difference is far from trifling, as on forty testicles it was $7\frac{1}{2}$ grammes. This difference in weight is made up entirely by the orchitic juice, as we

find the same difference between the weights of the liquids produced by the filtering of the two macerations as between the weights of the two lumps of orchitic pulp. The weight of the liquid extracted from the first maceration is of 87 grammes, whereas the weight of the second maceration is of 101.20 grammes, which makes a difference of 14.20 grammes in favour of the second maceration. But to get the exact difference it is necessary to subtract from the figure of 14.20 the $7\frac{1}{2}$ grammes of surplus glycerine which the second maceration contains; so that the real difference is 6.70 grammes. This figure of 6.70 and the figure of 7.50 are both identical on the face of it, if we take into account the quantity of glycerine which had been retained in the filter.

These experiences, which I repeated ten times, always yielded identical results. They clearly show the real influence which the genetic excitation has upon the production of orchitine in the testicle, and the absolute necessity to seize the opportune moment at which the ablation of the organs must be proceeded with.

The long experience I have of the Séquardian method, the ceaseless researches which I have conducted to give the method a positive scientific basis, have awaked in me the absolute conviction that orchitine is produced in the testicle under

the exclusive influence of genetic excitation. I am positive that it is indispensable to obtain it at that very moment, before the male has utilised it, to make good the loss of the considerable amount of nervous force which the act of copulation exacts from him; should the coition not have taken place, the moment must be forestalled when orchitine is resorbed and is again dispersed in the system. In this latter case the duration of total resorption does not exceed two hours. As it is impossible to gather anything where there is nothing, it is necessary to be in time if something is to be gained.

The conditions of age, health, and genetic excitation being fulfilled, the choice of the animal, at least theoretically, is of little importance. The monkey, the bull, the horse, the he-goat, the ram, the dog, the cat, the rabbit, the guinea-pig, supply liquids, the potency of which differs but little. In practice, however, exigences are not so easily satisfied. Now what about the monkey? It is scarcely to be thought of, at least in Europe; and I do not see how a breeder could be seduced in sacrificing his reproductive stallions, his horses, his bulls, or even his rams, for a purely humanitarian end. That is the reason why I have given the preference to the guinea-pig, and I do not regret it. The guinea-pig is an animal which it is easy to rear and also to handle, and which

into the bargain is totally harmless. At as early an age as two months it is apt to reproduce itself. It is healthy and vigorous, and is very easily excited in presence of the female, a disposition which allows me to obtain easily the fluid at the opportune moment, and to operate rapidly upon a great number of individuals. In proceeding on these lines, if it happens that one animal deceives me, there are a hundred of them to make good this disappointment; and last, not least, I am always sure that my liquid contains, in nearly equal quantity, the real element of life, orchitine.



CHAPTER IX.

Extraction of orchitine—Process of d'Arsonval, known as the Process of the Collège de France—My own process—The two processes compared—Titration of orchitine according to the d'Arsonval process, known as the Process of the Collège de France—Titration, according to my process—The two processes and titers compared.

Once the organs have been secured under good conditions, the question arises as to how to isolate the active principle contained in them.

At the laboratory of the Collège de France they proceed in the following manner:—

A certain number of testicles having been obtained, they are cut into thin slices or reduced into a pulposus mass, according to the nature of the animal from which they are derived; then an equal weight of neutral glycerine at 86° Fahrenheit is added, previously sterilised by boiling at a temperature of 230°. The whole mixture is left to macerate for twenty-four hours at the ordinary temperature of the ambient medium.

Then filtering and sterilisation by means of the carbonic acid high-pressure apparatus of

d'Arsonval takes place. In this way a liquid is obtained which represents the mother-liquor. Orchitine thus obtained is called orchitine at fifty per cent. When it comes to put it in ampullæ or in phials, the liquor is diluted with ten times its volume of boiled water, to which two per cent. of chloride of sodium has been added. This preparation, henceforth ready to be injected, is consequently titrated at five per cent. if the mother-liquor is taken as standard. However, this titration is absolutely fictitious. Indeed, if one considers, as I have ascertained by means of strict weighing, that one kilogramme of testicles gives up to glycerine not more than 30 grammes of its total weight after a maceration which lasts twenty-four hours, it follows that the real titer of the mother-liquor, instead of being fifty per cent., is only roughly 3.3 per cent., and that the combining proportion of the liquid ready to be injected, instead of being five per cent., is in reality only at 0.3 per cent. Each cubic centimeter of liquid injected represents three milligrammes of active principle.

My process of extraction differs from the one of d'Arsonval by the duration and the number of successive macerations. In the hope of obtaining a more concentrated mother-liquor, I tried to increase to forty-eight hours instead of twenty-four the duration of the maceration. I obtained

thus a much richer liquid, which contained from seventy to seventy-five parts of active principle out of one kilogramme of liquid after filtering.

In order to make sure whether the residual pulp in the filter did not contain some more juice, I made it to macerate afresh in some added glycerine; but the filtering yielded nothing beyond pure glycerine. The exhaustion thus proved to have been complete in the first instance.

Second Experiment.—I composed a mixture of two parts of orchitic pulp and of one part of glycerine, and left it to macerate for two days. Under these conditions filtering became well-nigh impossible, and the liquid obtained was not any the richer for it.

Third Experiment.—I took the liquor produced by the first experiment after filtering, and mixed it with some fresh orchitic pulp. A maceration of two days yielded, after filtering, a liquid containing one hundred and fifty per thousand of active principle.

By pushing my experiments still further, I came to the conclusion that by a series of macerations with fresh pulp each time, and by filtering with the carbonic acid high-pressure filter after each maceration, it was possible to obtain a mother-liquor saturated with the active principle; I found that this degree of saturation of the liquor was represented by the proportion of

thirty per cent. of active principle, after four successive macerations, each lasting forty-eight hours.

These tests are the foundation on which I based my process of extraction of orchitine.

I put in a mortar an equal weight of orchitic pulp obtained from guinea-pigs, and of neutral glycerine at 86°, chemically pure and sterilised by boiling at 230°. I leave the whole to macerate for forty-eight hours at the temperature of the ambient medium. I add an equal quantity of a solution composed of distilled water, of two per cent. of chemically pure chloride of sodium, of two per cent. of biborate of soda, and of one per cent. of boracic acid, and then I filter with the apparatus of d'Arsonval. I take the liquor thus obtained and add to it another equal quantity of fresh pulp; this operation of macerating is repeated four times, each lasting forty-eight hours. Before filtering I add a quantity of chloride and boric solution equal to the total quantity of pulp employed. This fourth filtering gives me the mother-orchitine, titrated at thirty per cent. of active principle; in other words, about ten times richer than the liquid prepared by the process of d'Arsonval. To this preparation, which is saturated with organic elements, are added four times its volume of boiled water, mixed with two per cent. of chemically pure chloride of sodium, two per cent. of biborate of soda, one per cent. of

boracic acid; it is then finally sterilised and put into ampullæ by my special processes as indicated in the preceding chapter.

The orchitine thus obtained is ready to be used for injections. It is henceforth unalterable, and will keep indefinitely all its regenerative powers. Its real titer is six per cent., viz., twenty times higher than the one of the liquids prepared by the process of the Collège de France. Each injection of a cubic centimeter of my orchitine contains exactly six centigrammes of active principle, whilst the same quantity of the liquid of d'Arsonval contains no more than three milligrammes.

The orchitine prepared according to my method has the important advantage of introducing into the system under a small volume a force of considerable potency, and also to avoid pain and the accidents following upon the injection of a great quantity of liquid as well as the phenomena of reaction attending it; finally to reduce to a minimum the number of sittings when injections are made.

CHAPTER X.

Comparative doses of the liquids prepared by the method of the Collège de France and of orchitine as obtained according to mine—Mode of administering the treatment ; its duration — Number of injections indispensable to ascertain whether orchitine will have a favourable effect. —Badly prepared liquids ; their influence upon the opinion of medical practitioners.

The liquids prepared according to the method of d'Arsonval are administered every day, and sometimes twice a day, at the variable dose of from four to ten and even fifteen cubic centimeters, which represent an amount of active principle varying from 12 to 45 milligrammes.

The usual dose of orchitine coming from my laboratory is one injection of one cubic centimeter every day. This injection represents six centigrammes, or 60 milligrammes of the same active principle. I never inject less than one cubic centimeter at a time, neither do I ever dilute my liquid. For subjects who need a smaller quantity of orchitic fluid I space out the sittings, leaving between them intervals of two,

three, or even five days. In certain cases, on the contrary, the dose can be increased to two, three, four, and even five cubic centimeters every day; this dose, however strong it may be, must always be administered in one sitting.

The injections of my liquids can be made at any time in the day. There is no need to make any special preparations for them, neither is it necessary to take any rest once the injections have been made. They do not interfere in any way with the ordinary occupations, nor with meals.

From what has been said before, it is easy to understand that my liquids, in spite of their high force, are, when compared with those coming from certain laboratories, by far the less expensive, in consideration of their titration and their potency, which allow the number of sittings and injections to be reduced to a minimum. If to these advantages we add the ones arising from their matchless efficacy and their absolute harmlessness, it will appear obvious that hesitation is not possible as to where the buyer's preference ought to go.

The duration of the treatment varies according to cases. Sometimes five or six sittings suffice to bring back harmony in the physiological functions, and to restore the patient to health; at

other times, on the contrary, several months of injections are indispensable to obtain an appreciable and durable result. On this point I follow a certain rule of conduct which has never failed me, and which I now describe as follows: once the dose has been fixed, I continue the treatment so long as improvement in the state of the patient is apparent; when the moment arrives when nothing more is gained I suspend the injections. At this moment, either my patient is completely cured, or the result obtained is only a partial one; in the first case the treatment is at an end, in the second I take up the treatment again after having allowed the patient a few days' rest. It is indeed rare that the second part of the treatment should not yield any further improvement; so that, after a series of resumptions with intervals of rest, I secure a complete cure.

When the injections are given to individuals who, still young, are only weakened, the result obtained from the first treatment is final, and there is no need to take it up again. If the method is to be applied to an old man who desires to retrace his steps or to linger on the tableland before descending the slope, it is necessary to make from time to time a series of five or six injections. In this way the appearance of the infirmities and the drawbacks of old age may be warded off for a long time.

The average duration of the treatment of individuals who are only weakened is of forty days, and the number of injections amounts to twenty.

Orchitine being a harmless product, there is never any counter-indication to its using it. In no case can it do any harm, and it often gives unexpected and excellent results. The use of it could not be too strongly recommended to those who, for some reason or other, must fight some weakness or ills of some kind. The injections, if they are any good at all, can only help them, and the only thing they risk is to fail to obtain any benefit from their use. For there are certain persons, whose number is fortunately limited, who are absolutely refractory to the action of orchitine. These, of course, will have faced the expense and noted in their books one more disappointment after perhaps a great many previous ones. However, even these will not have lost their time in going through this unsuccessful experiment, as they can be henceforth assured that no other treatment will do them any good, and that time alone may relieve them of their ills. I have never seen any treatment of any kind succeed where orchitine has failed.

But you will say: "After how many injections
"are we entitled to say that we are refractory
"to the treatment?"

Almost in all cases a few injections suffice to bring about an improvement in the state of the patient, and sometimes even at the first sitting he has a sensation of physical comfort which he had not felt for a long time. But if, after ten or twelve injections, no change has taken place, success becomes doubtful; after twenty sittings doubt is no longer possible, and the treatment had better be given up. However, in the second part of this book there will be found an observation on a patient suffering from locomotor ataxia, who, after having undergone the treatment during several months without the slightest result, was at last radically cured by the injections which had been taken up again after a rest of a few weeks. To tell the truth, I must say that when I began the second part of the treatment I used, together with the Séquardian serum, a specific drug which, used alone, had at first failed. The combined action of the two agents, powerless when used separately, gave the most gratifying result. But this case is an exception, and I repeat it, if, after twenty injections, a very noticeable improvement has not set in, it is useless to continue the treatment.

The organic juices extracted after the methods which I have just indicated have a very different therapeutical value, according to their origin; but, whether they are produced by the d'Arsonval

method or by mine, they both do possess curative properties which act in the same manner and bring about results which are identical if care be taken to make good the inferiority of the potency of one liquid by increasing the quantity to be injected. To ensure this, the practitioner will administer his patient twenty cubic centimeters of liquid of d'Arsonval as against one cubic centimeter of orchitine coming from my laboratory. Unfortunately, since the last report of Brown-Séquard to the Academy of Science of France, the laboratory at the Collège de France has ceased to prepare orchitic fluid. The quality of liquids supplied to the doctors by private industry has undergone a change for the worse through this suppression. Those who prepare them have conformed themselves strictly to the laconic formula of d'Arsonval, without taking sufficiently into account the three essential conditions for obtaining an active juice, viz., health and vigour of the animals, and, above all, ablation of the organs at the moment of genetic excitation. Either through ignorance of the only physiological moment when the collection is possible, or through want of confidence into the method, or, perhaps, which is more likely, through economy, they get their supplies from slaughterhouses where they find bulls and rams which have ceased to be of any service, and in which age and the prospect of imminent death has

abolished any kind of genetic excitation. This inert matter, from which the principle of life and strength, that is to say, orchitine, is totally or almost totally absent, has never yielded, and will never yield, anything but a poor liquid, having at the utmost the value of a serum extracted from any gland or tissue whatever, a liquid which possesses none of the qualities indispensable to bring forth the regenerative effects observed by Brown-Séquard, by myself, and by all those who have made a conscientious use of the method by employing well-prepared products, which alone can be efficient.

What was the result? Juices of such origin are easily prepared, at low cost, and can be made the object of an extensive production. The brokers of pharmaceutical products overran the world and established agencies everywhere. The doctors, seeing on all the prospectuses headings like this, "Organic juices prepared after the formula of d'Arsonval," believed in them.

It was impossible for me to compete with the low prices offered, and the consequence was that most of the practitioners used the cheap liquids instead of mine. However, disappointments accumulated, some accidents occurred, and soon the value of the discovery was challenged. The method had its convinced adepts and its implacable detractors, both sides proclaiming with equal

good faith opinions of the most divergent character. Some emphatically asserted the goodness of the method, the greater number denied it with equal sincerity. This divergence of opinions had no other cause than the following: Those who believed in the method had employed it under good conditions, the others had really not experienced it at all. I shall try to make this plain. Up to this day it has not been possible to determine the physical and chemical properties of the principle of life and strength which is formed in the genitals of male mammalia under the influence of genetic excitation, so that the practitioner never knows whether this principle really exists in the liquid injected or not. It is only by its effects that its presence is revealed. Thus it comes about that we hear contradictory opinions, emitted by people whose good faith cannot be questioned. Some have used the regenerative liquor, the others have made injections with water, to which there had been added some glycerine, chloride of sodium, and a tiny quantity of serum. The first are adepts of the method, the second are detractors of the same.



CHAPTER XI.

*Orchitine taken by the mouth—Orchitine taken in an enema
— Value of these two modes of administering the serum —
Preparation of the enemata — Manner in which they are
to be given.*

To obtain good results, it is necessary to use good products. The good liquids, prepared according to the method which I have described, are expensive. Medical men have not, up to the present, through ignorance of the subject, attached sufficient importance to the quality and the origin of the juices employed. That is the reason why so many patients have not benefited by a discovery which the medical world, now enlightened by the results of my experiments, will soon, to a man, proclaim the greatest boon of the century.

If Brown-Séquard is no longer among us to uphold the standard of Séquardism, if d'Arsonval, absorbed by other work, did not take it up when the storm was raging, I, at least, have never

abandoned it. I daresay that behind me the host of doctors convinced of the goodness of the method, with the patients whom they have cured, is still great enough to carry the colours of Séquardism to final victory and triumph. Therefore, let the doctors and the patients, now better advised, beware of the snare laid to them by apparent cheapness; let them take recourse only to orchitine which is obtained from the sexual organs of guinea-pigs, and fulfilling the threefold indispensable conditions—youth, vigour, genetic excitation. They will not be long in regaining confidence, and they will soon see that this preparation of mine, which unites security to efficacy, is after all the cheapest in the market.

Brown-Séquard was for a long time strongly opposed to the taking of orchitine by the mouth. He was then absolutely convinced that the action of the gastric juice upon orchitine was to destroy or at least to diminish considerably its power. Towards the end of his life, however, Brown-Séquard became less affirmative. To-day we know that if the preparation really contains the true orchitic juice, it can be taken by the mouth and still yield good effects.

The Sequarine of Messrs. C. Richter and Co. has for a long time past shown this in an unmistakable manner. The only precaution not to be lost sight of is to take Séquarine at least

one hour before meals. Nevertheless, I think it preferable in all cases when patients object to subcutaneous injections, to take recourse to enemata, the dose to use being equal to the one for an injection.

In the rectum the liquid is absorbed bodily, without emulsion or digestion, so that it is wise not to neglect this mode of administering orchitine in certain cases when it may render the greatest services.

Certain nervous persons, such as children and women, and even men, turn their backs to the benefit they could derive from the treatment, through being afraid of the injection. They shun an insignificant pain, which they imagine to be excessive. I have seen people fainting away and getting into a regular fit at the sole sight of the Pravaz's syringe. Instead of injections, it is better to use with those patients enemata, which often give the very best results. It is also advisable to use enemata with highly sensitive subjects, whose skin is in a state of hyperesthesia caused by illness, as is the case with some people suffering from hysteria.

It is true an enema has not the same efficacy as an injection; however, even if it is used alone it is able to cure all diseases which are amenable to injections, and bring back strength where there was weakness. But to attain this, doses

must be increased. Instead of one injection every other day, one must take an enema every day, or even twice a day if deemed necessary.

In order that the enema be efficient, the following precautions must be taken:—

1. The rectum must be cleared of all the matter which it may contain; this is done by means of a copious ordinary enema of boiled water.

2. Once this is obtained and the whole of the enema has been thrown off, the patient goes to bed and keeps lying on his side, with the breech slightly raised.

It is in this position that the orchitic enema is taken; it must be retained in its entirety. This is easy, as the enema is a minimal one; it is thrown far into the rectum by means of a little pear of red indiarubber, able to hold 25 grammes of liquid and fitted with a long cannula. This pear, called Brown-Séguard's pear, is manufactured by Galante, in Paris, but can be had from any chemist, who will get it if the order is given him. The enema is a valuable resource which should always be offered to people who fight shy of the injection.

To prepare the enema one pours into a scrupulously clean wine-glass two table-spoonfuls of boiled water, which has sufficiently cooled, but

which is still tepid; one mixes with it the value of an ampulla of one cubic centimeter or orchitine, and stirs the whole thoroughly with a teaspoon. Once the enema is taken, it will be good to stay in bed for at least one hour, and to refrain for several hours from evacuating the contents of the bowels.



CHAPTER XII.

An interesting query.

Does the female possess in the same degree as the male the precious quality of elaborating in its genital organs a liquid possessing dynamogenous qualities equivalent to those of the orchitic juice?

All those who have studied seriously the method of Brown-Séquard have been greatly concerned about finding an answer to this question. Important researches were made on the point at issue by the Master himself and by several of his followers. With a very few exceptions the results of these researches have been of a negative character.

My personal reseaches, on the contrary, allow me to give an affirmative answer to the question. If I am in a position to do that, it is because my investigations have not been directed solely to the study of ovaries, but also to other parts of the genital organs of the female. It is not in

the ovary that the dynamogenous juice special to the female ought to be looked for, but in the parts situated round the clitoris, during the special time of rutting. At this time, under the influence of genetic excitation, these parts swell, become tenser, and fill with a special liquid which oozes through the organs to the surface when a prolonged excitation has brought to its maximum of intensity the turgescence of the erectile tissues which compose them. This liquid, which it is easy to observe in the bitch, the she-goat, the cow, the mare, possesses properties which are identical with the ones peculiar to the orchitic juice. This liquid, when it is mixed in the proportion of ten per cent. with boiled water, which has been previously sterilised and filtered by my special process, and to which has also been added two per cent. of chloride of sodium, may render real services.

I once injected four men and four women, each with one cubic centimeter of liquid, taken directly from a heifer during the time of genetic excitation and immediately before the bull approached her. Dynamogenous effects analogous to those of orchitine, but not so marked, were produced in the men and the women after each of them had received ten injections. The women seemed also to be more influenced by the liquid than the men. My experiments are still of too recent a

date, and are besides not numerous enough to enable me to report with accuracy upon this special action on woman of the liquid obtained from the female of animals. However, I call the attention of physiologists to this point concerning the dynamogenous power of this special liquid secreted by the females of mammalia when they are rutting. It would also be interesting to know whether the effects of orchitine are more marked on men, and the effects of the liquid obtained from the female more marked on women. I am pursuing my experiences, and hope some time to attain the final solution of the question.

As my researches advance I get more and more convinced of the fact that the regenerative liquids do not really exist in the genital organs of animals, male or female, when genetic excitation is absent, and I firmly believe that it is only at the moment when this excitation makes itself felt that it is possible to collect them with any chance of success.

CHAPTER XIII.*

Is suggestion responsible for the cures produced by orchitine?

A certain number of medical men, compelled to yield to evidence before the precision and the multiplicity of accomplished facts, said:

“All that you put forward is true; deny it we cannot; but orchitine has nothing to do with it. You purely and simply act on your patients by suggestion. It is suggestion which cures them, and not orchitine. The proof of it is in the fact that with injections of pure water we can secure effects which are identical with those you proclaim having obtained with orchitine injections.”

My honourable colleagues, I don't suspect in the slightest degree your good faith; however, before going any further, permit me to take note of your declaration, and to state that you are at one with me as regards the effects produced and the importance of these effects. This is no doubt something, if we consider that the

* Extract from my book “Force et Santé, la Vie prolongée par la méthode de Brown-Séguard” (Part I, page 91).

patient benefits by the result, and that the aim of our profession is to relieve and to cure those who suffer.

With regard to suggestion, I do not in the least intend to contest the good you can derive from its use. It is a kind of treatment, though the injections of orchitine constitute another. I am willing to admit that by two different roads we reach the same end, though I do this for one moment only, for such is not my conviction.

You may prefer your system to mine. You are, of course at liberty to do so; but you must not tell me that it is suggestion which gives orchitine the potency which it in reality possesses. Such absurd reasoning would be the negation of therapeutics and the suppression by one single stroke of the whole pharmacopœia. Why go through all these long and difficult medical studies to arrive at the conclusion that a little quantity of pure water and a great quantity of suggestion suffice to cure all disease?

Medical practitioners and their medicines become at once useless; a little dose of will would take their place admirably.

All this talk is devoid of common sense, and unworthy of brains which many years of practice ought to have matured. But however senseless that may be, I willingly admit that it is in conformity with truth, though to deduct from this

that the orchitic fluid has no action of its own is on the face of it impossible.

A few instances will suffice to convince my readers of, and to set them right on, the value of this reasoning.

Suppose we are confronted with two men sentenced to death.

The executioner severs the head of the first man with his axe; you give the second, who has been worked up by suggestion previously, a glass of pure water. This means, so simple that I am surprised at its not being put into practice, is sufficient to bring about the same result as the preceding. Now, because you have killed your man with a glass of pure water, is this a proof that the executioner's axe has not accomplished its task without the smallest amount of suggestion?

If water, aided by suggestion, may become a tonic as powerful as the best Marsala, it does not follow that this excellent wine will cease to render great services to the weak. I dare even think that the weak will not hesitate between the two means, and will continue to take the Marsala in spite of the economy of the other process.

Moreover, in order that orchitine may cure by way of simple suggestion, it is necessary to find patients who are apt to respond to suggestion, and further, that the doctor intends to use suggestion. Now, I declare that I never had

CHAPTER XIV.

The Future of the Method.

We are surfeited with the never-ceasing flow and ebb of theories. What we want are facts, more facts, and only facts! There lies the true method of the Claude Bernards and the Brown-Séquards, men who have made of medicine a science as positive and precise as an axiom of Euclid: It is by dint of facts that I have compelled, and shall continue to compel, the deaf to hear, the dumb to speak, the blind to see, and even those who refuse to see, to hear and to speak. It is out of a fact that the method has sprung to light. This fact—observed on himself and proclaimed before the Biological Society of Paris by Brown-Séguar, its president, by a man, in a word, who occupied the highest scientific position, a man whose probity and professional disinterestedness defied any criticism—this fact deserved, for the sake of its author as

well as for its own merits, to be immediately examined and verified. This was just what the communication had aimed at bringing about; that is to say, it wanted to cause the scientists to start from the isolated fact given, and to make of it the foundation of a vast amount of experiments out of which truth would promptly and infallibly spring. I have already said how the Master's appeal was received. However, if the members of the Biological Society were blind enough not to take into serious consideration the discovery of Brown-Séguard, there were other practitioners — far-sighted these — who grasped the situation at once and saw the whole importance of the communication and the innumerable results which would naturally evolve out of it, if new facts were brought forward to confirm the fact already announced. They at once resolutely set to work. Every day of my life I congratulate myself for having been among these first pioneers, perhaps the most enthusiastic of them.

When one comes to think of the way which has been covered since the day when Brown-Séguard made his first communication to the Biological Society up to this day, that is to say, in twenty-two years, one realises what the steadfast will of a man in possession of a scientific truth may do, in spite of general indifference, and even of what

is worse, of ridicule. I had made my experiments conscientiously; I had seen, I had faith. My conviction being once firmly established, I had only one end in view: (1) To render practical, easy to handle and harmless, this considerable force which makes of orchitine the most powerful therapeutical agent which we possess; (2) to apply this force to the most diverse cases, so as to multiply to the utmost the good which it can procure to humanity.

This book shows that I have attained this end. The orchitic fluid, as I prepare it, is absolutely harmless; it can be kept unaltered for any length of time. It is easy to transport, and may be sent to the most remote corners of the world, where it arrives without having lost anything of its precious dynamogenous properties. The administration is such a simple matter that anyone may, without even the assistance of a doctor, practice the injections upon himself. Finally, an enormous number of pathological facts of absolutely different nature are recorded in this work. These facts have come to my knowledge through my personal observations, or they have been observed by distinguished doctors from all parts who sent in to me the results of their experiments, or in some cases they have been communicated to me directly by the patients themselves. These facts, in possession of which

I am, constitute absolute proof of the possibility of this method being applied with success to the most diverse maladies.

All these facts, observed at the same time at Port Louis, Mexico, New York, St. Petersburg, Vienna, Berlin, Florence, Geneva, Madrid, Brussels, as well as in Paris, by doctors operating seriously and separately on diseases of very different character, but always in the sense of restoration of the strength of the patient and with the same liquid, are a victorious confirmation of the results proclaimed by Brown-Séquard. Orchitine is a force of matchless potency; a force which can be utilised to the benefit of weakened beings—such are the truths which spring from my numerous observations.

Now that the method is well established on thousands of facts of the most conclusive character, it may withstand any attack without risk to its brilliant future. As the method no longer needs defending, I have resolved to vulgarise it. This book has been written with this end in view. To enable the masses to share the priceless boon of the discovery of Brown-Séquard, in furnishing everybody with the means to apply to himself, without intermediary, the regenerative injections, such is my most ardent desire.

The power of orchitine is unlimited in the variety of its effects; the serum itself, thanks to the

improvements which I have introduced into its preparation, is harmless and easy to transport. I foresee in the very near future the time when everyone will understand either by himself or through members of his family how marvellous the qualities of the orchitic fluid are, and be aware of the immense benefit which it is possible to derive from its use, either to maintain oneself in a good state of health and strength or to cure disease. Then in all families, from the richest down to the poorest, there will be found in store, just as fuel, bread, and salt already are, an ampulla filled with the precious regenerative agent. It will then be possible to draw from it, at day or at night, in case of need, strength and life.

The discovery of the dynamogenous principle contained in orchitine and of its application to the restoration and the conservation of human strength will for ever maintain Brown-Séquard in the forefront among the benefactors of the human race. Those who have fought relentlessly for the triumph and the vulgarisation of this conquest made by science, those who have released it from the fetters in which it lay at the beginning, and have put it within reach of the whole world of the diseased and weak, these will find the reward of their efforts and labours in the satisfaction of having been useful to their fellow-creatures.

CHAPTER XV.

Conclusions.

From all we have said, it is easy to conclude that orchitine will always have a tonic action on the nervous system, and that it is the dynamogenous principle in essence.

Every time we are confronted with a weakened system we shall, without trying to find out the cause of this weakness, apply orchitine, for all our organs receive their impulse from the nervous system.

The restoration of strength will in most cases suffice to bring about the recovery of the patient. In more complicated cases the combined action of orchitine and of the therapeutical agents will still stand as a very potent and often indispensable auxiliary.

In a word, it may be said, without fear of error, that this principle of force can be applied in nearly all cases, either during illness to sustain


the patient's vitality, or after illness to help him to recover the strength which he has lost, as all illness is a cause of loss of strength.

Shall we conclude from this that the orchitic juice is a panacea, a cure for all ills? Not in the least: in some cases, it is true, it is sufficient to effect a cure, but in most of them it requires to be assisted by the specific treatment of the particular disease under observation.

All that remains for us now to do is to define with exactness the different cases in which orchitine is applied, and to classify them. This will be done with the greatest clearness possible by means of the observations which we give further.

The first category of these observations will include all maladies the primordial cause of which is weakness resulting from old age, fatigue or excess, etc., etc.

The second category will comprise observations made upon patients whose organs are really altered functionally or otherwise, in which cases we make the best use we can of this regenerative agent.



Part II.

PART II.

CHAPTER I.*

*Report by Professors Brown-Séguard and d'Arsonval
to the Academy of Science of France—Meeting of
the 24th of April, 1893.*

*Physiological and therapeutical effects of a liquid extracted
from the sexual male gland, by Messrs. Brown-Séguard
and d'Arsonval.*

We have the honour to communicate to the Academy the statement of the principal results obtained by over twelve hundred doctors whom we supplied with orchitic fluid. The physiological and therapeutical effects of so remarkable a character, which have been obtained by means of subcutaneous injections made with this liquid, from 1889 to 1892, deserved, in our opinion, to become the subject of multiplied verifications.

In consequence, we appealed to a kind of intelligent universal suffrage, and announced that we were prepared to give liquid gratuitously to

* Extract from the official transactions of the meetings of the Academy of Science of France (page 855).

all medical practitioners of France and from abroad who would ask for it, under the condition that they should send us at the same time the clinical history of the patients on whom they intended to apply the treatment, and also give us the promise that they would let us know the details concerning the effects of the liquid during the course of its use.

We must own that the results have far exceeded the hopes which the facts known a year ago entitled us, in our opinion, to entertain. Not only have the diseases, which had been reported to us as yielding frequently to the physiological influence exerted by the liquid, given way to it more frequently and more rapidly than before May last, but a number of other diseases which we could scarcely think to be apt to improve or to disappear under its influence have also been the object of the most favourable modifications.

The diseases which were successfully treated with the orchitic liquid would perhaps never have come within the jurisdiction of this remedy had it not been for the faith which was awakened in patients who, having heard of the results obtained by this physiologically therapeutical agent, strongly insisted that their sceptical doctors should give them injections of the liquid. We mention this fact to show that the medical men

with whom we got into touch have witnessed facts which they hardly desired to ascertain, and that their assertions with regard to the cases improved is rather below the truth than above.

We now give the list of the facts, beginning with the diseases which have been most frequently treated.

The disease which gives us at the same time the largest number of cases and the greatest proportion of cures, is locomotor ataxia, which, as is well known, depends on a sclerosis of certain parts of the posterior columns of the spinal cord. As we intend treating the subject more fully in a later communication, we will content ourselves to-day with stating that, out of the four hundred and five cases which have come under our notice, we shall only consider three hundred and forty-two, where there can be no doubt as regards the accuracy of the diagnosis. Out of these three hundred and forty-two cases, three hundred and fourteen have been considerably improved or entirely cured, which gives us a proportion of ninety-one to ninety-two per cent. Even Friedreich's disease, that is to say, hereditary locomotor ataxia, has been very much improved, as is shown by the two only cases treated up to this time. The other cases of sclerosis of the spinal cord, multiple sclerosis, anterolateral sclerosis, diffuse sclerosis, have, for

the one hundred and seventeen cases the diagnosis of which is certain, yielded a proportion of eight or nine per ten of cures or notable improvements.

The number of cases of pulmonary tuberculosis have not exceeded sixty-seven; in the four-fifths of these cases considerable improvement has been obtained, as I shall show elsewhere. Night sweats, cough, weakness, digestive troubles, insomnia, fever, disappeared. These results show how important it would be to institute in this direction serious research in a wider field than heretofore.

In a communication which one of us made to the Academy, the gratifying influence of the orchitic liquid on cancerous patients has been shown. The hope which the knowledge of this fact has awakened in a great number of patients has determined nearly one hundred doctors to give this mode of treatment a trial. At a subsequent meeting we shall show that one hundred and three patients suffering from superficial cancer, the diagnosis of which could therefore leave no room for doubt, the following improvements have in nearly all cases been observed: disappearance of the pale yellow complexion and of the cachectical condition, increase of strength, cessation of pain, ulcers and hemorrhage in the patients who were afflicted with them; in other words, there was a return

to the normal condition in most of the cases, if we except the persistence of tumours, which, however, behave as they would in a healthy individual, namely, as a simple foreign body. We deem it hardly necessary to say that, in spite of all these ameliorations, there were patients who, either dying or 'stricken with organic lesions which could not but inevitably cause death, actually died; but we must also lay emphasis on the fact that they did so only after a struggle which proved to be more prolonged than it would have been under ordinary circumstances.

Among the frequent organic diseases which have also given proof of the gratifying influence of the orchitic liquid, we shall point out the different diseases of the heart, the brain, the kidney, and also myelitis.

One almost incurable disease, the organic seat of which is by no means ascertained yet, viz., Parkinson's disease, has given results which were really astounding. Out of twenty-seven cases twenty-five were considerably improved, and if the improvement already secured is to continue, it is probable that a few of them at least will soon be cured. Up to this day only one case of complete cure has been put on record, and that is the one of a barrister treated at Toulon by Dr. Manoel.

This terrible disease, which had always been the despair of doctors and of their patients who suffer from it, has consequently become curable, or at least susceptible to be arrested in its progress and to be benefited by marked amelioration.

The diverse forms of diabetes mellitus or of simple polyuria, which belong to the group of diseases which M. Bouchard has rightly considered as connected with some trouble of the nutrition, experience, just as do anæmia or asthenia, the most gratifying influence from this liquid, used either alone or together with the liquid extracted from the pancreas.

Arteriosclerosis, sclerosis of the heart, albuminuria connected or not with sclerosis of the kidney, contractures and paralysis from diverse organic causes (diseases of the brain, the bulb, the spinal cord, the nerves), reflex paralysis, neuritis, pulmonary troubles other than tuberculosis, including even gangrene (as is shown by two cases), Addison's disease, exophthalmic goiter, organic diseases of the liver, the stomach, the intestine, the womb (including fibroid tumour of this organ), atrophy, and many other morbid organic conditions, have been improved in the most unexpected manner. The same thing can be said of optic neuritis, connected or not with locomotor ataxia, as the oculists in London and Paris now well know.

We need not say that in a great many cases debility due to old age or to diverse maladies, especially to influenza, has been markedly improved, or has even totally disappeared under the influence of the orchitic fluid.

Hysteria, St. Vitus's dance, neuralgia, megrim, certain forms of rheumatism, gout, malarial fever, have also benefited by these injections. There are a number of other maladies which could also be quoted in connection with the preceding ones, such as agoraphobia and pseudo-hypertrophic muscular paralysis.

To our great astonishment a malady which is very much the fashion (and which, if not so frequent as is commonly believed, still is often to be met with), neurasthenia, of which more than eighty cases have been treated by our process, have not given by far so many cures or notable amelioration as did cases of organic diseases such as the diverse forms of sclerosis of the spinal cord. Indeed, the proportion of the cases of neurasthenia which have really benefited by our method was only fifty or sixty per cent.

As the facts reported in this paper tend to show, there is scarcely one single disease, the effects of which have not been combated more or less successfully by means of our injections. As we have said before, it is to the energetic tonic

action on the nervous centres that the influence of this liquid is especially due:

Those who know that the nervous system may produce the most varied alterations in the dynamic, as well as in the organic, condition of the different tissues, will readily understand how, once the potency of the nervous centres has augmented, it may become capable of effecting the reverse action, and of gradually and even rapidly bringing back to its normal type the dynamic state of the diverse tissues. As to the organic condition of these tissues, we have a great number of proofs of the gratifying modifications which it may exhibit. Thus, for instance, fibrous tumours of the womb, ulcers of leprosy or of cancer, may disappear under the influence of the orchitic liquid, which acts upon the nervous centres after having been absorbed. However, there is scarcely any reason to believe in the possibility of a direct local action of the orchitic liquid which, being diluted in the mass of the blood, is unable to pass but in excessively small quantities into the vessels of the injured parts, and especially into the ulcerated tissues. But the idea of a direct local action must be dismissed on the strength of an experiment which we had occasion often to repeat. We washed eight or ten times a day with orchitic fluid wounds made on guinea-pigs, and we never have

seen cicatrisation being produced any more rapidly than with wounds which, of an absolutely identical character, had not been submitted to the action of the liquid.

We have tried elsewhere to demonstrate that the orchitic fluid gives the system something beside the tonic influence upon the spinal cord. We shall content ourselves here with saying that we believe to have well established elsewhere that this liquid supplies the blood with formative elements of new cells. The regenerative action of this liquid in cases of organic disease appears to us as being due at the same time to the introduction of these elements into the blood and to the increase of energy in the potency of the nervous centres. Experimental facts which we must investigate further still countenance the arguments which lead us to believe in the existence of two distinct modes of action of the orchitic liquid, namely, introduction into the blood of regenerative organic elements and a special tonic influence.

We believe that those who would try to find in the orchitic liquid one or two chemical principles capable of producing the two actions which we have pointed out would be losing their time. The selfsame fate would overtake researches of such a kind, and those which would aim at discovering in the spermatozoön or in the ovule

the chemical principle which is to form the liver or the brain, the spleen, the kidney, or any other organ.

CONCLUSIONS.

1. Though the orchitic fluid does not possess any direct curative influence upon the diverse morbid conditions of the system, it can, after having been injected under the skin, cure or considerably improve the diseases, either organic or not, of the most varied character, or at least cause their effects to disappear.

2. These actions of the orchitic liquid are due to two kinds of influences: By means of one of them, the nervous system, gaining in strength, is enabled to improve the dynamic or organic condition of the diseased parts; by means of the other, which depends upon the introduction into the blood of new materials, this liquid contributes to the cure of morbid conditions by the formation of new cells or other new anatomical elements.



CHAPTER II.

Personal Observations by the Author.

Simple Senility.

Effects of orchitine used as soon as the first signs of senility become apparent—Rapid recovery of virility.

OBSERVATION I.

M. A. D..., sixty-six years old, an architect, enjoys an excellent constitution. He has never been seriously ill, but he has behind him a long life of intellectual and physical work, of which he has certainly abused. For the last few years M. A. D..., without having experienced the slightest pain, saw sleep become difficult and the appetite bad; general emaciation and muscular atrophy had progressively gained ground; the lower limbs, and later on the arms, became very weak. On the day we see M. A. D... for the first time he looks like a tottering castle which the slightest breeze would lay down. It is impos-

sible for him to ascend one floor without the assistance of someone else's arm, and he is incapable to step alone into a railway carriage or into any other vehicle. The dynamometer plainly shows this weak condition. The bladder is scarcely strong enough to discharge the urine which dribbles upon his boots; erection has completely gone, and defecation is impossible without the help of enemata or of laxatives taken by the mouth. The beating of the heart is regular but weak; breathing is satisfactory—I only observe a slight cough and some thick sputum in the morning. M. A. D... has been for the last three years catching cold easily, and stays frequently at home in winter. On the 28th of October, 1890, I take M. A. D... to Professor Brown-Séquard, whose diagnosis is paresis; he puts aside, at least for the time being, any idea of paralysis or locomotor ataxia, and advises the use of subcutaneous injections of orchitine obtained from guinea-pigs. On that day the strength measured at the dynamometer marked five on the pressure of the right hand, and six on traction of the same; on the left, the pressure gave four and traction five. The legs were so weak that M. A. D... could scarcely produce the effort sufficient to raise the feet above the carpet, and once he was seated on a chair he was unable to get upon his feet by himself. We began the treatment on the 30th of October, and continued it up to the 11th of December without interruption, at the rate of one sitting every other day, when one injection of one cubic centi-

meter of orchitine was given, which brings the total of sittings and injections up to twenty.

The trial had not been fruitless. The general condition had much improved, and the local condition was also markedly better. Sleep was completely restored, the appetite was excellent; the discharge of urine was also stronger, the stream going eight inches further; defecation now took place regularly without the help of enemata or of laxatives. The cough in the morning, as well as the sputum, had finally and rapidly subsided. The sensibility to cold was much less than before the treatment; the physiomy and the eyes in particular had resumed their lively and animated expression; the memory and the disposition to work were also both well improved. M. A. D... felt a sensation of well-being which he had not experienced for a long time.

The muscular strength, though very slight still, had increased instead of decreasing. At the dynamometer pressure gave fifteen on the right and thirteen on the left, instead of five and four respectively, which are the figures Professor Brown-Séquard had ascertained on the 23rd of October; traction went as far as fourteen on the right and eleven on the left, instead of six and five observed at the same consultation. M. A. D... could now rise from a low seat without assistance, by leaning upon his hands. The strength of the arms and the legs having increased, he could walk without dragging his feet along the carpet, and was able

to ascend one story, without even holding the balustrade.

M. A. D..., feeling much better, suspended the treatment, and was again able to look after his business, which obliged him at times to travel great distances. The improvement obtained lasted until the 25th of January, that is to say, during forty-five days, when, after a slight chill, his strength failed suddenly, and he became weaker and weaker. When M. A. D... came to see me in the beginning of February, 1891, the dynamometer had fallen from fifteen to seven for the right, and from thirteen to five for the left; he could no longer ascend the stairs without the assistance of the balustrade. Six sittings were sufficient to bring the strength back to the point where it had been at the beginning of December, 1890. Since then M. A. D... has continued the treatment up to the 22nd of July last, without interruption, at the rate of one sitting a week. The dynamometer marks twenty-two for the right, nineteen for the left; walking is much easier, micturition and defecation are all that is to be desired, appetite and sleep are excellent. In a word, the general condition leaves little to be desired.

The genital organs alone have not gained anything, or indeed very little, from the treatment.

There is one more fact which we must not forget to state. M. A. D... had been suffering for a whole year of an anal fistula; he noticed that it suppurated less and less, and that it finally

disappeared altogether. When we took up the treatment again, I administered every week, beside the injection, two enemata of orchitine.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

This observation does not permit to doubt a moment the dynamogenous action of orchitine upon this old man, who suffered from no other disease than senility. The reasons are:—

1. No other remedy was employed at the same time as orchitine.

2. The restoration of strength coincided exactly with the application of the treatment.

3. The same strength failed again a few days after the suspension of the treatment, and was restored and maintained — it even increased — when the injections were resumed.

This observation tallies, from every point of view, with the facts reported in the communication made to the Biological Society of Paris by Brown-Séquard.

If the genital functions have drawn no benefit from the treatment the reason is, in this particular case, that these functions were entirely abolished, and that there is no power in the world, not even orchitic power, which would be able to bring to life again organs which are really dead. Things

would have certainly taken quite different a course if the genital organs had been only weakened; however weak the spark of life might have been then, it would have been revived under the influence of the regenerative agent.

OBSERVATION II.

Madam A..., seventy-four years old, is unable to recover from a violent attack of influenza dating from February, 1890. Examination of the organs discovers no lesion which could be liable to bring about death. However, the general condition becomes from day to day so miserable that the inevitable end seems to be very near. First the digestive functions are involved, then the venous circulation. Madam A... can no longer keep any food—milk, broth, champagne, are thrown out in vomiting. The lower limbs are edematous up to above the knee; the weakness is so great that the poor woman cannot even keep seated in her bed. Urine is almost nil. Nights are agitated; there is fever and delirium, accompanied by hallucination. Neither *coffeine* nor *digitalis* can strengthen the cardiac muscle.

On the 15th of November, 1890, on my advice, the family accepts the injections of *orchitine*, and on the very same day I make two injections of one cubic centimeter each, at an interval of six hours. The night following upon these injections is worse than the preceding ones; the patient has an intense fever with repeated

shivering. But, not later than on the next day, vomiting ceases, and a few spoonfuls of broth and a little champagne are taken with pleasure and tolerated. On the 16th I make another injection of a cubic centimeter; there is no fever during the night. Madam A... is able to sleep for four hours. On the 17th, 18th, and 19th the treatment is continued at the dose of one cubic centimeter; the general condition improves every day; broth, milk, wine, a soft-boiled egg, are perfectly tolerated; urine is abundant, the swelling of the lower limbs diminishes, and on the 30th of November the patient is on her feet again, ten injections having been given up to that time.

During the month of December I make only four injections, and on January 15th, 1891, after two more injections, the treatment is entirely stopped. Madam A... has become stronger, she is now able to go down her four storys and to do her little shopping. From this time onward the cure has been fully maintained.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

In this observation, just as in the preceding one, it is impossible to deny the action of the orchitic juice.

I could report here, with all their details, fifteen other cases of simple senility ascertained and treated on old people of both sexes, viz., on nine men and six women, of the age of sixty to

seventy-five. But in order not to repeat cases which are all alike, I will content myself with saying that the results, with no exception at all, have always been prompt and satisfying, that the duration of the treatment has never exceeded three months, and that in three cases five injections have been sufficient. I may add that once the amelioration is well established in old people, enemata of orchitine are of the greatest assistance.

OBSERVATION III.

M. S..., a man of letters, fifty-nine years of age, is very stout, the size of his waist being one yard fifteen inches. He is usually in excellent health. The digestive and circulatory apparatuses are irreproachable. The generative functions take place without effort or fatigue, and with a fullness that is rarely met with at his age. The intellectual faculties are excellent, and work is as easy as it was twenty years ago. M. S... could rightly call himself still young did he not feel in himself the sensation of old age in its inception. The discharge of urine is now weaker, defecation is more laborious, sleep is interrupted by dreams and does not prove so resting as formerly. Finally—and this is the most important point—pulmonary emphysema makes breathing very difficult. Time has delivered its first assault on the respiration, and the string of other infirmities which are inherent to old age will soon follow

suit. Will it be possible for us to combat these first manifestations of old age, to mend the damage done by time, and stay for a few years a new attack? The experiment will supply an answer to this query.

I began the treatment in the first fortnight of April last, at the rate of three sittings of orchitic injections from guinea-pigs every week. The dose injected at each sitting was one cubic centimeter. After three weeks of treatment and nine sittings of injections, not only did I not notice any improvement whatever, but M. S... felt much heavier after meals, also less disposed to work, and was labouring under a sensation of general weariness which inclined him to sleep. I advised my patient to give himself a rest of a fortnight. Two weeks later M. S... resumed the treatment courageously. This time I thought it fit to lessen the intensity of the treatment, and I confined myself to twice a week of one cubic centimeter of Séquardian fluid.

To-day, after another treatment of two months' duration, that is to say, after seventeen sittings of injections, the emphysema has almost completely gone. M. S... walks upstairs and walks about with much greater facility. At the time when I began to inject him he could not ascend more than one story without stopping; now he calls several times in the week on a relative who lives on the fifth floor, and he is able to perform this ascension almost without any trace of anhelation. The size of his waist, which was one yard fifteen inches, measures now only one yard eight inches,

that is to say, there is a diminution of seven inches obtained in a comparatively short time. Sleep has become much more regular, deeper, and exempt from dreams; all other functions, and among these micturition and defecation, are performed in a markedly better manner than before. M. S... no longer lives under the unpleasant dread of incipient old age. He distinctly feels that the treatment has carried him back again to the middle of the table-land of virility, where he is disposed to stay on for several more years, being conscious of his renewed strength and the new lease of life he has gained.

M. S... had been suffering for long years from a very persistent eczema, which has almost totally disappeared in the course of the treatment.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

This important observation shows in an obvious manner:—

1. That it is possible, by means of injections with the Séquardian liquid, to stay the advance of senility, to cause the first manifestations of it to disappear, and to bring back to virility those who have just begun to pass into old age, and thus to prolong the duration of active, real life for a certain time. This time may cover years; but, be it ever so short, it none the less constitutes a veritable conquest on death. There can be no doubt left as to the truth of this assertion.

2. That one must not give up hope after a first failure, and that it suffices at times simply to modify the doses of the treatment to secure a more gratifying result.

3. That the effects of the Séquardian fluid were accomplished slowly and steadily. This way of acting in the case of orchitine is not rare with persons whose polysarcia is exaggerated, it is constant with those in which depression is not very accentuated yet. We must, indeed, observe that the greater the weakness the easier it is to notice an improvement in the strength of the patient.

The observation on M. S... thoroughly corroborates the letter which M. J. L... wrote to me. This letter expresses in a graphic manner the condition of a great number of persons, either men or women, who have reached the upper table-land, and who are on the brink of making the first step along the descending slope. I cannot resist the impulse to insert it at this very place:—

“ Dear Sir,—

“ Allow me to ask you the following question.
“ It seems to me that the method of our great
“ Brown-Séquard could very usefully be employed
“ in the following cases:

“ Suppose a man of fifty years of age, in very
“ good health, without any organic lesion, with-
“ out any diminution of strength, but who is all

“ the same aware that for a few years past he has
 “ been slowly going downhill: this feeling being
 “ rather the result of reasoning than of actual
 “ sensation. Would not this be the moment to
 “ take recourse to this regenerative treatment,
 “ no longer as a means of curing, but of con-
 “ serving the physical and cerebral faculties in
 “ giving them a new impulse? This process
 “ would, I think, retard the appearance of the
 “ critical period usually observed in people at
 “ the age of sixty. It would also have the im-
 “ portant effect to put the man into a position
 “ to work more usefully at the moment when he
 “ has gathered great experience, and when he has
 “ attained his full intellectual development.

“ This is the idea which I beg to submit to
 “ you: forestall old age and illness, and not only
 “ combat a senile or diseased condition.

“ Excuse my indiscretion, and believe me to be

“ Yours sincerely,

“ J. L...”

M. J. L... has since experimented upon himself
 the powerful agent which we recommend, and
 the last sentence of a letter which he wrote me
 in May last testifies of the good results obtained.
 Here is this sentence:—

“ Allow me, dear doctor, to proclaim loudly
 “ the marvellous results obtained by your method,
 “ of which I have felt the effects in a manner
 “ which leaves no room for doubt.

“ Believe me, etc., etc., J. L...”

(Extract from my book, “ Force et Santé.”)

I could quote twenty-five cases identical with those I have just reported, but all are so very much alike that I content myself with recalling them, in order to avoid repetition. However, I must mention one important fact which took place during the treatment of Madam V..., of fifty-four years of age.

OBSERVATION IV.

For the last six years, that is to say, since the age of forty-eight, the menses have ceased to appear altogether with Madam V... After seven weeks of treatment, and after the eleventh sitting of orchitic injections of a cubic centimeter, Madam V... regained her lost strength, and took up the aspect, the vigour and ardour of a woman of forty. As a complement to this revival of youth, the courses appeared again, and since February, when this happy event occurred, namely, since six months, this physiological function has regularly taken place.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

CHAPTER III.

Observations which clearly show the influence of the orchitic juice of mammalia, used in subcutaneous injections in man at different ages, with a view either to prolong the adequate working of the genital organs, or to restore to them their potency when it is diminished or lost.

The preponderant part played in the life of man by the generative functions lend the following observation immense interest, and proves to be of incalculable import. When man has become unable to perpetuate his kind he feels that he is a useless being in the harmony of the universe. Compelled to renounce love, there is no longer any room for him in the constitution of the human family, which is based on the union of sexes. As he no longer shares its joys, its sorrows, its advantages, or the duties of the home, he needs must feel an exile. The miserable life which he leads can only inspire one with pity.

OBSERVATION I.

M. X..., of Mexico, thirty-two years of age, has had almost successively, when he was twenty-four, one attack of yellow fever and one of serious articular rheumatism. As a result of these two great shocks the stomach had become very slack, and we notice to-day a slight dilatation and flatulent dyspepsia. But what saddens M. X... more than anything else is that since that time he has entirely lost the faculty of erection.

M. X... came to Paris in August last, and placed himself under the intelligent care of our eminent master, Dr. Lancereaux, who considerably improved the condition of the patient's stomach, but failed entirely in his treatment of the impotency.

M. X... was accompanied on his voyage by his fellow-countryman, Dr. de la Fuente, who took him to Professor Brown-Séquard, in order to obtain the Master's advice on the advisability of injecting orchitic fluid in this particular case.

Brown-Séquard did not hold out much hope, as he judged the case to be very unfavourable. He emitted the opinion that all he could say was that the chances of failure were at least as great as those of success. However, he told both gentlemen that they might try without fear his method, and he sent them to me.

From the 1st of October to the 14th of the same month, I went with the patient through seven sittings of two injections each, given at half-an-hour's interval.

After the fourth sitting the success proved already complete, as M. X... was during the whole night tortured with a real priapism. The same phenomenon took place after the sixth sitting.

I may, perhaps, be allowed to add that in order that he should not harbour any doubt as to the efficacy of the method, M. X... put to the test the happy dispositions which had followed upon its application.

M. X... returned to Mexico by the mail boat on the 15th of October, convinced of being definitely cured. He has since taken up again the use of orchitine. The news we have received from him allows us to say that the results obtained have been maintained, and have developed in the most gratifying manner.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION II.

M. B..., a lithographer, has served two years in the French Army in Tongking. He has been back home for the last two years as an invalid, and since has been unable to rid himself of a sanguinolent diarrhœa, which neither regimen nor medicine has been able to stop. For more than a year the generative organs have been considerably atrophied and reduced to a state

of absolute impotency. At the contact of a girl with whom he was madly in love before he left Tongking, M. B... does not feel the slightest desire now. This unfortunate young man has reached such a degree of weakness and hypochondriasis that he has taken life in horror, and that several times already he tried to put to execution the suicidal thoughts which continually haunt him.

On the 16th of February I began the treatment at the rate of three injections of orchitine every other day. On the 2nd of April, after forty-five days of treatment and twenty-three sittings with three injections each, M. B... was rid of his diarrhœa; the appetite and sleep were again excellent; strength and corpulency were coming back again. The genetic functions, also benefited by this general regeneration, had reconquered all their energy. Cheerfulness had now taken the place of hypochondriasis and of suicidal ideas. M. B... having become a man again, thanks to the injections of orchitine, remained no longer indifferent to the contact of his betrothed, whom he married on the 20th of June last. Courageous at his work, in brilliant health, this young man, who four months ago wanted to die, to-day claims his place under the sun and his share of pleasure.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION III.

M. X..., thirty-eight years of age, has over-indulged in the practice of onanism up to the age of twenty-two. Lazy, without the slightest energy, his character is weak and morose. Though he looks strong; he is unable to resist fatigue. Married at the age of twenty-four to a woman with whom he was very much in love, he gave himself up to unbridled venereal pleasure during the first year of his wedded life. However, already at that time, the erections had begun to be feeble, incomplete, and fugitive with him. He rapidly reached confirmed impotency, and the stimulants of every kind which he tried intus and extra only accelerated his fall. At as early an age as thirty, coition had become impossible. In spite of this lamentable state desire was still lurking, and M. X... observed sometimes when he woke up in the morning that he had a velleity of an erection, which, however, disappeared at once.

M. X... came to my consultation on March 8th, 1891, and on the very next day I made two injections of one cubic centimeter of orchitic fluid. The state of nervousness in which the patient was, did not allow me to give more than one sitting of two injections every fifth day. In spite of the low intensity of the treatment the good effects began to make themselves felt already after the fifth sitting. At the end of sixty days of treatment and of twelve sittings success

was complete. Since May last M. X... is in a very satisfactory state of health and vigour, and still he took recourse to the precious liquid only twice since.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION IV.

M. L..., sixty years old, very robust, no organic lesion existing, has up to this day felt the approach of senility only through a very marked diminution of the genetic power, which set in two years ago; the decline of this faculty is now very rapid. The erections are rare; they occur scarcely once every five or six weeks; they have besides become less and less complete. Ten sittings of two injections of one cubic centimeter of juice every week have sufficed to render M. L... all the virility he possessed twelve years ago. During the last six months M. L..., who is anxious to remain a man as long as possible, and to keep what he has gained, had one sitting of two injections every twentieth day.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION V.

M. V..., ex-naval officer, still very vigorous, though suffering from rheumatism, carries his seventy-one years cheerfully, and complains, with a grain of philosophy, may it be said, of the absence of exigency on the part of his genital organs. A little storm from time to time in the midst of this dead calm, would contribute, says he, to lessen the monotony of the last days of the passage. It is, therefore, the tempest which Admiral V... implores to get from the Séquardian injections. Twelve injections of a cubic centimeter of orchitine, given within a fortnight, sufficed to set right again the genital functions. Since the month of April Admiral V... has met, without foundering, several tempests, and he hopes that the period of storms is not closed yet.

DR. GOIZET.

OBSERVATION VI.

M. P. G..., sixty-one years of age, of a very robust constitution, has been afflicted for the last three years with absolute impotency. At different intervals he tried orchitic fluids originating from different laboratories, and made injections of each successively, giving each a trial of two months. In spite of results which in the main proved negative, M. P. G... did not lose courage.

On the 12th of May, 1893, after having read an article on my special process of preparing organic juices, he communicated with me, and I sent him a first parcel containing fifty ampullæ of one cubic centimeter. Two days later he began the treatment, and on the 10th of July, I received the following letter:—

“Marseilles, July 10th, 1893.

“Dear Doctor,

“According to my promise, I am sending you
“the results obtained after seven weeks’ trial.
“I have made two sittings of injections every
“week at the rate of two injections of one cubic
“centimeter at each sitting, which means so far
“thirty-two injections. The injections were much
“less painful than all those made previously, and
“most of them did not cause any pain at all.
“There was neither redness nor induration.

“As to the result, it could not have been better.
“I am now in the condition in which I was
“when between thirty and forty. The spontaneous
“erections begin every morning towards three
“o’clock; the turgescence is complete. During
“the day there is a slight pruritus noticeable
“in the testes, and also a sensation of fulness,
“especially if I remain several days without
“satisfying my desire. In a word, I feel that
“the organ is alive.

“I have noticed that the production of sperm
“is abundant, and that the force of ejaculation
“is very great. Examined at the microscope,
“the sperm showed a proportion of spermatozoa
“as considerable as in a man between thirty
“and forty.

“During ten successive days, under a July
“temperature, in beautiful hot Provence, I
“have been capable to carry on sexual inter-

“course every day. This experiment leaves me
“with no fatigue at all, either intellectual or
“physical; my legs support me with the same
“resiliency—they allow me to walk as quickly
“as ever, and I do not feel in the slightest the
“need of sitting down in ordinary time. Such,
“dear Doctor, are the results which I have to
“communicate to you. I beg you to accept my
“heartfelt thanks, and my very kindest regards.

“P. G...”

I may, perhaps, be permitted to give one more
of this wonderful patient's letters:—

“Marseilles, September 22nd, 1893.

“Dear Doctor,

“Thanks very much for your parcel, which
“reached me safely. I shall begin the treatment
“of my neurasthenic lady to-morrow, and shall
“let you know particulars of the case. With
“regard to myself, the absolute impotency which
“had been confirmed for three years has given
“place to the normal working of my organs
“under the influence of four ampullæ every week.
“This is a fact which for me is now entirely
“indisputable. I may add that my physical
“strength and my activity are considerably in-
“creased, and that my appearance has assumed
“again a youthful character which, not only I
“had observed myself, but which has been com-
“mented upon by all my acquaintances. My
“skin is beautifully soft and my complexion
“quite fresh. The corpulency with which I had
“begun to be threatened has much diminished.

“I hope to write to you soon again, dear
“Doctor, and remain,

“Yours devotedly,

“P. G...”

Another letter of the same correspondent:—

“Marseilles, August 30th, 1894.

“Dear Doctor,

“One more success to report with Captain
“de S... The results which I obtain with your
“preparations are really marvellous. Enclosed
“you will find an observation on this new case
“of neurasthenia. With regard to myself, this
“is the course which I am now following, and I
“shall not wander from it: two sittings of three
“injections each with one day's interval revive
“my genital functions for ten days, and sexual
“intercourse, even performed daily, produces no
“fatigue in me, as I had already told you in a
“previous letter.

“The more experiments I make the stronger
“my conviction becomes that the organic juices
“of your preparation are the only ones on the
“efficacy of which full reliance can be placed.

“I beg to remain, dear Doctor,

“Yours cordially,

“P. G...”

As the preceding facts are of such a nature as to prove the powerful action of the orchitic juice on the weakened organs of generation, it is possible that my readers may be induced to believe that success is unfailing, and that the precious discovery of Brown-Séquard is an infallible specific remedy, good for all ills connected with senile disturbances of the genetic functions. It is my duty to warn the patients against such excessive confidence which would be apt to pro-

duce cruel disappointment. With therapeutics as with everything else there are exceptions to the rule, whether orchitine be in question or any other tonic agent. In the case which we consider, however, exceptions are fortunately rare; nevertheless they exist, and they are almost impossible to foresee before the experiment has gone through. I have often succeeded in cases where I expected to fail, and, on the other hand, I have sometimes failed where I hoped to succeed. I do not go so far as to say that exceptions confirm the rule; I only say that they do not prevent it from existing. Further, I can affirm, with the certitude not to err, that the action of the Séquardian liquid on the conservation, prolongation, or restoration of virility is real and efficient, and I proudly proclaim the services which this regenerative remedy, scarcely come to light, has rendered to humanity.



CHAPTER IV.

Anæmia.

Action of injections of orchitine upon anæmic patients.

OBSERVATION I.

Miss T..., sixteen years of age, small, of stunted growth, suffers considerably from pains in the lumbar and abdominal parts, as soon as the first week of the month makes its appearance. This state of things has been lasting for a whole year. At the same time the bosom swells, hardens, and her temper becomes more irritable. Everything points out to the approaching appearance of the menses. However, the symptoms have been lasting for a year, and the courses are still absent. This condition not only persists, but becomes worse and worse, in spite of the ordinary medication, which consists of iron, arsenic, exercise in the open air, hydrotherapy, sea baths, aromatic frictions, half baths, hot infusions slightly stimulating, which are given at the approach of the supposed period and during

that period. Little by little the skin loses its colour, the superficial veins are small and empty, the lips and the nails are pale. Miss T... cannot walk quickly, still less run or ascend an incline, without being out of breath or having the feeling of violent palpitations. Migrem accompanied with vomiting, supraorbital neuralgia, intercostal pains, follow upon each other without interruption. Appetite is absent or depraved, digestion painful and laborious, constipation almost insurmountable. The auscultation of the heart reveals an aortal souffle at the first time; this bruit follows up as far as the vessels of the neck.

When I was called to attend Miss T..., in the month of November, 1890, anæmia had made such progress that the unfortunate girl, languishing and weak, could scarcely walk a few minutes. Studies and even reading had to be stopped. Sleep was heavy, difficult, and disturbed by hallucinations. The patient, sad and melancholy, did not take part in the amusements of her age. Urine was discoloured, the lower limbs swelled in the evening, the eyes and the face were bloated.

The progress of anæmia had been so rapid that the condition was becoming quite alarming. I suspended every internal medication, and on the 10th of November I made in the buttock a first subcutaneous injection of one cubic centimeter of orchitine. This first sitting having been well tolerated, and the patient having had a comparatively good night, I made another injection on the following day, viz., on the 11th, and so

forth every day during a whole week. At the eighth sitting Miss T... was much more cheerful, had a little appetite, her digestion was better, her sleep was more restful, and she could walk during a quarter of an hour without too much fatigue. From the 20th of February onward I gave two sittings of injections each week for a fortnight. The improvement was obvious. The patient, who ate, digested, and slept well, maintained that she was cured. I then gave only one sitting a week. On the 25th of December menses had appeared without pain or shock. Miss T...’s condition was so satisfactory that I suspended the injections. They have not been required since. The treatment had lasted six weeks. From the 24th of January to the 18th of July, 1891, seven menses have taken place in the most normal manner, and without more pains than the usual little troubles which beset at that period young girls in good health. The physical and intellectual development of Miss T... set in rapidly, and she is now in her seventeenth year, a beautiful blooming young woman, perfectly apt to become a happy wife.

DR. GOIZET.

(Extract from my book, “Force et Santé.”)

OBSERVATION II.

M. X..., forty-two years old, surgeon in the navy, has made a long stay in the Congo, during which he got a pernicious intermittent fever, and con-

tracted grave dysentery. Having been back home for the last eighteen months, and his strength not returning in spite of a well-planned regimen, an appropriate tonic medication, and several changes of air, Dr. X... underwent, under my direction, from the 17th of February to the 22nd of March, a treatment of twelve sittings each of two orchitic injections of one cubic centimeter. Already, after the fifth injection, Dr. X... was better; after the twelfth injection the restoration of strength was complete. On the 3rd of May he took again active service on a man-of-war; he was then in the pink of condition, and had gained twenty pounds in weight.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION III.

M. C..., eighteen years old, is preparing his entrance examination to the School of Engineers in Paris. Caught serious typhoid fever in October, 1890, which lasted until November. The convalescence was dragging along indefinitely, complicated with a continuous disturbance of the bowels. Emaciation was frightful, weakness extreme; brain-work of any kind was no longer possible. Six weeks' stay at Cannes had not improved the patient. The parents send me their son, M. C..., on February 7th, 1891, and I began on that very same day the treatment, in giving two injections of one cubic centimeter of orchitine. I continued

the treatment with the same dose at the rate of one sitting every other day. On the 17th, that is to say, ten days later, diarrhœa was stopped; on the 2nd of March M. C... was cured and was able to resume his studies; he had increased in weight by eleven pounds in twenty-five days. To-day no one would recognise the poor dying boy he was in February. M. C... received twenty-eight injections of one cubic centimeter in the course of fourteen sittings.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION IV.

M. H. S..., thirty-four years old, editor of a great Parisian daily, has been very much affected by three attacks of hematemesis, which occurred during the last three months. They were each of about one pint of blood. These hemorrhagic accidents were attributed by several of our most competent medical celebrities and by myself to diverse causes. They had left M. H. S... in a condition of general weakness, which a stay of two months at Arcachon had not improved. The letter which Dr. Bourdier, who attended M. H. S... at that resort, wrote me, was far from reassuring, and reported that the patient's condition had not undergone any change for the better.

In the week which followed upon his return to Paris the patient had another hemorrhage with an abundant evacuation of blood from the intestine. But the nature of the dysphonia felt showed in an unmistakable manner that once more it was the stomach which was the seat of the effusion of blood. This, besides, was the opinion of Dr. Duguët, who saw the patient in my company a few days later. M. H. S... was in an extremely weak condition, and could keep the medicine prescribed with difficulty. After ten days of milk cure and rest in bed, I stopped entirely the treatment prescribed, as I saw that it did nothing to restore strength. I then began, on the 8th of June, the injections of orchitine at the rate of one injection of one cubic centimeter of orchitine every other day. After a few injections M. H. S... felt better, and strength was coming back rapidly. At the end of July my patient was as well as he had ever been; he was full of courage and mental energy. He now eats, digests and sleeps to perfection. The weight of the body has increased by twenty-six pounds. Dizziness, which had been existing for several years past, had disappeared. I stopped the treatment, as M. H. S... has to go on a journey which will keep him away for a month.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

The four preceding observations have been chosen among many others. They will suffice to convince the reader as deeply as we are con-

vinced ourselves that orchitine used in the form of injections is a marvellous tonic, as well as from the point of view of the potency of its action as of the rapidity of its effects. I do not know of any power able to rival it in the treatment of anæmia.

In the four cases which I have just given the dynamogenous power of this new therapeutical agent cannot be doubted, as, before beginning to use it, I had been careful in stopping for several days previously any other kind of medication. It is, besides, only after the failure of these different treatments that I instituted mine.

For the last two years I have been much gratified by the simultaneous use of ferruginous preparations and of injections of orchitine. These two agents, when combined, usually bring about a more rapid result.



CHAPTER V.

The Brain.

On the use of orchitine in the diseases of the nervous centre.

With regard to all that concerns mental cases, I could not do better than to quote textually the experiments made by Professor Mairet, of the University of Montpellier, which were reported and commented upon by Brown-Séquard in January, 1890:—

“Among the facts upon which I have to report, those which I found in a lecture* given by Professor Mairet, of Montpellier, are undoubtedly, from every point of view, the most important ones. I shall reproduce here several parts of this lecture, and add to them a few remarks and diagrams which show the effects produced on the pulse and on animal heat by subcutaneous injections of orchitic liquid.”

* *Bulletin médical de Paris*, Wednesday, February 12th, 1890, p. 141. This very remarkable lecture is due to a physician who has acquired a high position as a savant and as a practitioner. To him are due five researches on the elimination of phosphoric acid in healthy men, in the insane, the epileptic and the hysteric.

The patients whom M. Mairé treated were suffering from that form of insanity which is known under the name of stuporous insanity; it is a disease which is characterised by considerable nervous depression. I first will give the word to the Professor of Montpellier, and I shall make afterwards the observations which the results obtained lead me to. He begins with the following description of stupor:—

“From the intellectual point of view, conceptions are extremely slow, the expressions from the exterior have great difficulty in producing a reaction on the brain.

“From the point of view of motility, the patients remain motionless during whole days in the same position; they are without the slightest initiative; they have no control over the emission of their urine nor over their motions.

“From the sensitive point of view, perception is retarded; there is even sometimes anesthesia present.

“From the point of view of organic life, the circulation is bad, as it is shown by frequent stasis, by peripheral coldness, and the state of the heart; the appetite is diminished, metabolism slack, as it is easy to ascertain from the analysis of urine.

“Was it not logical, with the knowledge we have of the effects of injections with orchitic liquid, to try them in this particular form of insanity, the aspect of which I just briefly retraced to you? It seems to me we were right in using these injections, so much the more that the physiological experiments which I had made

had shown me that they were absolutely harmless. Thus are explained the reasons for which I made use of the injections.

"The injections were made in different parts of the body, but more especially in the lumbar region and in the abdomen.

"Usually we do not make more than one injection in the course of twenty-four hours; however, in some cases we made two.

"Locally, as you have been able to ascertain from the patients who are before you, these injections did not produce any phenomenon worth noticing; the only thing observed is a little redness round the spot where the needle has penetrated.

"The patients seem even to suffer little from the injection, which indifference may perhaps be explained by the state of stupor in which they are. However that may be, they lend themselves without difficulty to the injections, which are made to them with all necessary care by our distinguished assistant, M. Bosc."

After having eliminated two of the six cases, the author says:—

"Now remain before you these four patients, whom I shall designate by figures.

"Number 1 is thirty-seven years old. He has been ill for about eight months. With him insanity shows itself by alternate periods of agitation and of depression. During the first ones the agitation is often accompanied by mental aberration, fright, sadness, and hallucinations of different kinds. During the second periods stupor is very marked, and the patient has no control over his bladder and intestine.

“At the time when we begin the injections with this man stupor is very marked, the eyes are wandering, there is a slight shade of uneasiness noticeable in them; the answers he gives are slow, and even impossible at times. Whether standing or seated on a chair, X... remains for whole hours in the same position; he does not think of going to eat, or even of eating when he is at table, and lets his urine go under him. One is then obliged to nurse him like a child. This kind of insanity has all the aspect of functional and hereditary insanity.

“The patient Number 2 is a young woman of the age of twenty-five. Her ancestry is unknown from the hereditary point of view. Before her illness this patient did not show any physical or psychic stigma which might have led to think of the existence of a hereditary blemish.

“Insanity supervened about seven months ago, whilst she was nursing her second child. At that time she was taken with general rheumatism, during the evolution of which there appeared delirium, which was at once recognised as being of a vesanic type, and which at the beginning produced lypemaniac stupor; that is to say, we were in presence of a form of insanity characterised by a state of stupor traversed at certain moments by frequent fits of agitation, with ideas of sadness kept up by hallucinations of the senses of sight and of hearing.

“Then, little by little, the agitation dropped, and two months after the beginning of the illness, with the exception of vague restlessness, stupor alone persisted. It was only in shaking her that it was possible to draw out of her a slow and badly-articulated answer to the questions she was asked. She had no control over her sphincters, and she had to be fed like a child. Her extremities were cold, even œdematised, so that we had to take her to bed.

"The photographs and drawings which I show you help you to understand what aspect stupor had at that time. When we began the injections of orchitic fluid the physical condition of the patient was better, thanks to the care of the staff, but the stupor was still the same, and had been persisting unaltered for three months. In this patient it is nutrition which is the essential pathogenetic agent of insanity.

"It is the same with patient Number 3, whose insanity has also developed after a confinement, only in this case there was a powerful heredity to pave the way.

"This woman had, like the preceding one, fits of agitation at the beginning; but when we made our first injections she had been for over five months in a state of deep stupor, with atony of the features, marked infiltration of the eyelids, a dull look expressing vague disquietude; there was need to direct her like a child, to make her eat, to take her to the water-closets; there was also coldness of the extremities, etc.

"The patient Number 4 is a man of the age of thirty-seven. He has been insane for several years already; his intelligence begins to become weak, but the dominating feature with him is stupor. This stupor is manifested on the physical side by the atonicity of the features, coldness of the extremities, which constitutes real asphyxia, cardiac intermissions, which make themselves felt every ten or twelve pulsations. On the mental side there is a kind of intellectual torpor, out of which it is not possible to get the patient, unless he is violently shaken, and even so one receives only incomplete answers to the questions put to him. This man keeps the same position for hours, and it is not only necessary to lead him to table, but also to make him take his food.

"Such are the patients on whom we experimented the injections of orchitic fluid. Two of

these patients were insane through disorders of the nutrition; Number 1 and Number 4 were affected with functional insanity, which in the latter has already ended in dementia.

“The intellectual condition of our patients guarantees that there can be no question with them of possible suggestion; besides, they have never known the nature of the liquid which we injected.

“With the exception of Number 4, these patients have been submitted at different times to repeated injections, each time during several consecutive days—six, eight, or fourteen days.

“Each of these series of injections was separated from the other by a variable interval of time.

“Before I shall tell you what the results of these different series of injections have been, it is adequate that I should let you know what each of these series taken separately has yielded. I shall limit myself for the time being to the nervous system, which governs intelligence, motility, and sensibility.

“To make the subject clear to you, I have only to remind you of what you have seen yourselves.

“With the patient Number 1, for instance, you have seen that, after injections of orchitic fluid, given once a day and repeated during eight consecutive days, stupor diminished already on the third day. This man, instead of remaining motionless at the same place, goes hither and thither incessantly; he feels stronger, and to show his sensation, after having measured his strength at the dynamometer or in shaking hands with him, he goes from one male nurse to the other and wants to shake hands with them to make them feel his grip.

“From the psychical point of view, the over-excitement manifests itself by restlessness, fright, hyperesthesia of the sense of hearing, by the idea that the people round him want to do him some harm, by the animation of his eyes and the colour of his complexion.

“On this man the injections consequently produced an over-excitement influencing intelligence, sensibility, and motility. No genetic excitation has been observed.

“With the patient Number 2 the excitement of the nervous system has been less marked than with patient Number 1, though it was still quite marked. I may now remind you of what occurred during the second series of injections which were made upon her. Already, after the third injection, this woman, who before used to answer very slowly and in whispers to our questions, and who immediately afterwards fell back into her torpor, now gets up from her chair, comes towards us as soon as we call her, answers with much greater vivacity and more intelligibly, eats alone and with an appetite, no longer remains motionless at the same place, begins to take an interest in needlework, becomes clean and tidy, and shows a certain initiative. The physiognomy is more open, the features are less flabby, the eye is more lively, and we observe a little fright which is produced by hyperesthesia of the sense of hearing. Finally, there is a certain degree of genetic excitation present, and we notice the disappearance of spots of anesthesia which existed on the surface of the right leg and of the left arm.

“But it is, perhaps, patient Number 3 who presented, under the influence of injections of orchitic liquid, the most marked excitement. You may have seen her, not being able to keep quiet in a place, going from one patient to another,

looking them straight into the eyes, tearing their work from them. You have seen her at other times getting up from her chair and beginning to run, as she imagined to recognise one of her relatives in a person who happened to pass. Intelligence, though still very much confused, is, however, quite alive. This woman, who used to give no answer to our questions, answered them clearly now, and you have heard her saying to me, when I asked her what I could do for her, 'I should like to go home to look after my husband and my children.'

"Over-excitement at a given moment became even so pronounced that I was obliged to prevent the patient from going into the kitchen, where I had ordered her to be employed, for as soon as she came across old men and children of the hospital she took them by the neck, called them my father and my son; she also consumed herself the food which she was told to carry. Perhaps there was in this woman slight genetic excitation.

"Cerebral excitation was also existent in our patient Number 4, but I do not speak of it, as the preceding facts suffice to satisfy you on this point.

"There can be no doubt that the injections of orchitic liquid produce in individuals who are affected with stupor an excitation of the nervous system which influences intelligence, sensibility, and motility.

"This, then, is a first result.

"But is it sufficient to justify the use of these injections? The study of the different aspects and of the evolution of this over-excitement will give us an answer to this query.

"From the point of view of its different aspects, the over-excitement which we observed in our patients completely reproduces the physiomy

of the agitation which accompanies lypemaniac stupor; it is an agitation of quite a special character, which grafts itself upon an underlying stupor, and is accompanied by restlessness, by ideas of sadness, and often by sensorial perversions. This excitement, as you know well, has already been observed in our patients at the time when no injections were given, at the beginning of the disease in Number 2 and Number 3, and at different times during the course of insanity in Number 1; it is consequently a morbid excitement.

“From the point of view of its evolution, this over-excitement is only transient; when the injections are suspended it prodigiously lessens, and after a number of days which vary according to conditions which we still have to determine, but which, with our patients, did not exceed ten or twelve days, it disappears.

“Morbid excitement, transient excitement, such are the characters of the excitement produced on the nervous system by the injections of orchitic fluid.

“In my opinion, if these injections limited their effects to such a result, this result would be too precarious to justify their use.

“Still, you have seen me continuing to make them. This conduct arises from the fact that I observed the production of other effects due to the injections, and which I will now study with you in detail. They appeared to me as being called to exercise a gratifying influence upon the disease. These effects are connected with circulation, temperature, and nutrition.

“1. Circulation. — When the number of cardiac pulsations oscillates round the normal the injections of orchitic fluid do not influence them, as you may see from the diagrams which I show you. But when this number differs from

the normal, be it either above or below it, these injections tend to bring it back to the normal. The two diagrams shown demonstrate this quite plainly.

“In the one, the number of pulsations was 130 before the injection; in the very first days after the injection this number fell to 90, and during the whole duration of injections, and even pretty long afterwards, it oscillates between 89 and 90. In the other, the number of pulsations, which was only 55, rises to 90 under the influence of the injections, and maintains itself in the vicinity of this figure.

“Consequently, the injections of orchitic fluid have a tendency to regulate the frequency of cardiac pulsations, and, one may say, they are in a general sense regulators of the cardiac pulsations. See our patient Number 4. This man had, before the injections, intermissions at every six or seven pulsations; under the influence of the injections these intermissions were more and more rare, and to-day you can no longer observe any.

“Besides, after a certain time, the pulse improves and becomes less liable to depression; but this is a peculiarity which is more directly connected with nutrition.

“2. Temperature.—As is the case for circulation, the injections of orchitic fluid tend to regulate the temperature in patients, at least where it is under the normal. In patients affected with lypemaniac stupor the temperature never exceeds in ordinary time 97.7° to 98.6° ; after the injections this temperature has a tendency to draw near to 99.3° . The curves which I submit to you show this well.

“Nutrition.—I observed in all my patients, consecutively to the injections, an increase in the appetite, which comes to the fore during the

very first days, and which is such that the warders are the first to draw attention to it. One may see the patients not only cease to refuse eating, but even begin to eat by themselves. Besides, you heard the patient Number 2 tell you that as a sequel to the injections her appetite had increased to such a degree that she ate twice as much as in ordinary times. In correlation, digestion being regular, the nutrition also improves. I should have liked to measure, so to say, this improvement of the nutrition by means of the examination of the excreta, but the confusion in which our laboratory is for the time being, as a result of the improvements which are being made to it, has prevented me from doing so up to this time.

“ Thus we see that regularisation of the circulation and of temperature, improvement of the nutrition, are, beside the over-excitement of which I have spoken previously, the effects produced by orchitic fluid.

“ These effects last longer than the over-excitement. Several days after the disappearance of the latter they are made visible on the physical side by a greater steadiness of the features, by a clearer complexion, the disappearance of infiltrations and of peripheric coldness, and also by the condition of the pulse and of the heart; on the mental side by an intelligence more widely awake, more apt to understand, with more stamina; in short, they are made evident by a number of symptoms which point to a better tone of the nervous system.

“ The excitement of the nervous system represents, therefore, only part of the effects produced by the injections of orchitic fluid; these injections produce beside a tonic action on the said system, which acts not only on the separatory forces, but also on the radical forces; in other words, on the forces of tension.

“It is now easy for us to understand why I continued the use of injections of orchitic fluid, especially if we remember that in lypemaniac stupor the nervous system is depressed, the circulation bad, and that in two of our patients insanity was due to disorders of the nutrition. I was entitled to hope, having the proofs of the action of the orchitic fluid as put forward to you, to be able to act upon the root of the disease.

“I proceeded then in the following manner:—

“When, after a certain number of injections, the tonic action had been obtained, I stopped and I began a new series of injections only when this action ceased to produce its effects. Up to the present I have made three of these series of injections upon the patients Number 1 and Number 2, and two series of them on patient Number 3.

“You may judge by yourselves the effects produced.

“If in patient Number 3 the improvement is slight it is none the less real, as is proved by the lessened intensity of stupor, the greater clearness of intelligence, the animation of the features, the expression of the face.

“In patient Number 1, after the third series of injections, the disease took up again the aspect it had already had previously; that is to say, that stupor gave way to a state of agitation with disquietude, a state which went several weeks back, and which in consequence is well confirmed.

“In this case it looks as if the injections had only changed the form of the disease without getting to the root of it. However, if you study this man in his actual state of agitation as compared with the anterior phases of excitement through which, as you know, he already passed,

you will not fail to make sure that his nutrition is better, his physionomy more natural, that his ideas are clearer, and also that there is more tone in his intelligence. This is so really true that, as the agitation is not very considerable, he deceives his family, and also imagines, wrongly I believe, that he is not far from getting cured. But, whatever the future may prove to be, it is none the less true that in this case the injections of orchitic fluid have had a gratifying influence through the tonic action which they exerted on the nervous system, an action which still continues in spite of the fact that the injections have already been suspended for several weeks.

“But the patient on whom our injections seem to have had the best effect is patient Number 2.

“This woman has already undergone a complete transformation in her physical and mental condition. Every trace of psychical disturbance has gone, the face has again assumed its usual expression, nutrition is good. This patient is well advanced in convalescence; we may even say she is cured. In this case, if there is only a coincidence between the use of the injections and the improvement, it may at least be considered as a very extraordinary one. For it is immediately after the first series of injections that the disease, which had remained stationary during three months, began to improve, and with each new series of injections the improvement became more marked. This woman frankly attributes her improvement and her cure to the treatment. At each series of injections she felt, as she says, her strength increase, the vague state of her mind diminish, and her intelligence become clearer.

“In consequence, the results which precede seem to me to be fully justifying the persistent use which I made of the orchitic injections.”

It would be difficult not to accept the conclusions, so full of reticence, of M. Mairet, who shows in this fine lecture a scientific spirit which is not often met with. One point which must be absolutely discarded in this paper ought to be pointed out first, though it has been already well established by facts of a different order. I mean to allude to the part of suggestion which in the case of M. Mairet has been, of course, nowhere. It is thus evident that the dynamogenous effects noticed after the injections of orchitic liquid depended on a special action of this liquid, and not on suggestive power.

Among the results obtained by the Professor of Montpellier, a new fact of the highest importance is to be found in the marked improvement in the mental condition of the individuals submitted to the injections. The gratifying influence on cerebral activity in individuals who are in perfect health, which I had pointed out and which has been observed by several physicians, is, as we see, also noticeable in the insane.

The effects obtained as regards appetite and digestion only confirm what several observers had already pointed out in a great number of cases.

To the physiologist, the results reported by M. Mairet with regard to the influence exerted by the orchitic liquid on the pulse and on animal heat are of a very great interest. I consider

myself, therefore, extremely fortunate to have been able to secure from the Professor of Montpellier and from his assistant, M. Bosc, diagrams which have not been published yet, and which show the accuracy of the opinions put forward in the lecture reproduced above. These diagrams were taken on three patients (Numbers 2 and 3, and on another whose history is not given in the lecture).

In these diagrams the dotted line represents the pulse; the thick line represents animal heat; the little crosses indicate the days when the injections were made and their number each day.

Figure 1 answers to patient Number 2.

Figure 2 answers to the first series of injections made on patient Number 3.

Figure 3 answers to the second series of injections made on patient Number 3.

Figure 4 answers to a patient whose history has not been given in the lecture, and who suffers from lypemaniac stupor, like the other patients. In this diagram one sees that the pulse, which stood at 137, fell in two days to 120 under the influence of two injections, and that later it went down from 120 to 83 under the influence of three injections in two days.

M. Mairet says with regard to the pulse and to animal heat:—

1. That the injections of orchitic liquid used in four cases of lypemaniac stupor have regularised the circulation. As much is shown by Figures 1 (diagram obtained on patient Number 2), 2 and 3 (patient Number 3), and 4 (a case not published yet by M. Mairét). In this last case the number of pulsations, which maintained itself up to 130 or thereabout, went down to 120, 115, and after the fifth injection was between 80 and 90. In the case of patient 3 (Figures 2 and 3) the pulse became gradually regular at the same time as the temperature. As it may be seen (Figure 3), the pulse went even so far as to maintain itself between 72 and 78 pulsations, and at the same time it became more energetic and more regular.

2. That during the whole duration of the injections the number of pulsations oscillated not far from the normal. The diagrams show that this has been the case.

3. That the action of the orchitic fluid persists several days after the injection is made. All the diagrams prove this to be accurate. In the case of patient Number 3, one may see (Figure 3) that the improvement of the pulse has been maintained for a long time.

4. That, when the temperature was below the normal, the orchitic liquid had the effect of bringing it nearer to its normal type.

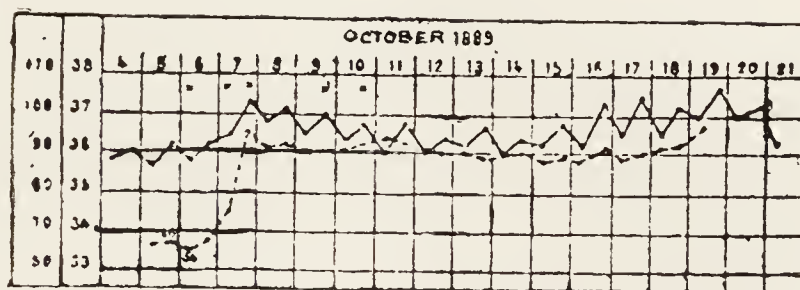


Fig. 1.

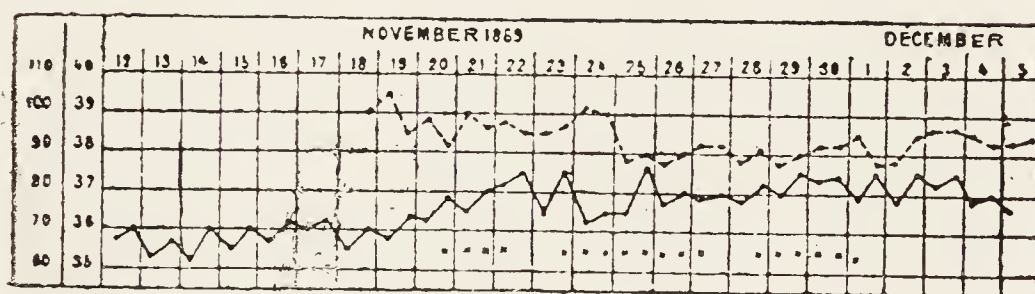


Fig. 2.

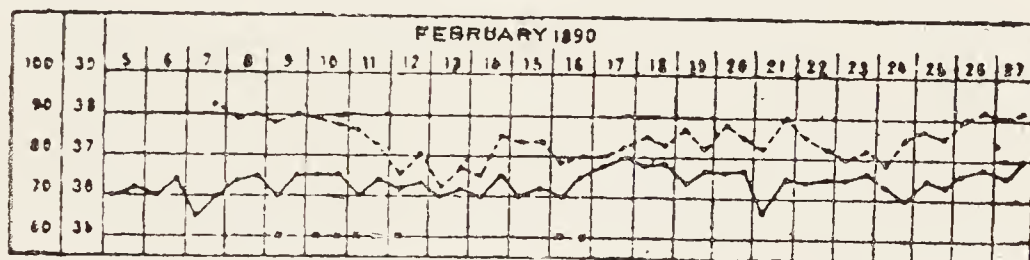


Fig. 3.

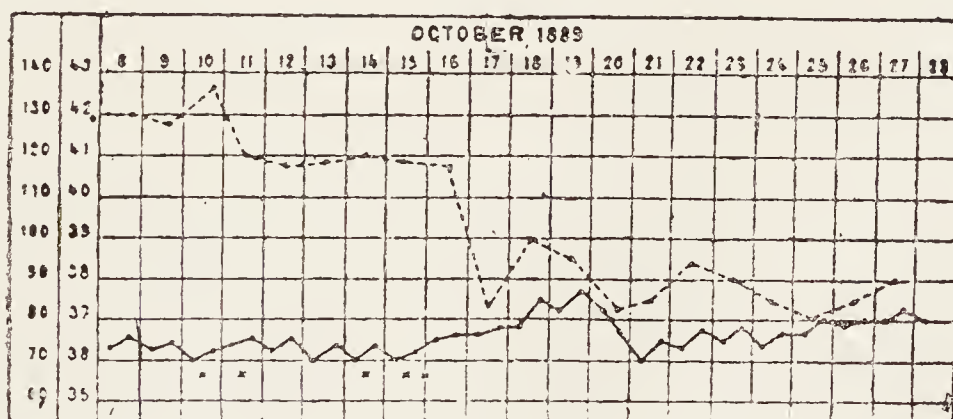


Fig. 4.

M. Bosc writes me that the pulse of patient Number 4 has been remarkable with regard to the diminution and the final disappearance of the intermissions. Several American doctors (especially Dr. Hammond and Dr. Brainerd) have ascertained that the injection of orchitic liquid improves the cardiac pulsation and stops the intermissions.

From facts observed by M. Variot, especially on an old man of eighty-one, it is clear that the orchitic fluid improves the circulation when the heart is atrophied or weakened by deposits of fat, or through other causes. It is obvious that these results are obtained by means of the increase of the potency of the spinal cord and the bulb.

Chronic Congestion of the Brain.

M. X..., fifty-two years of age, an officer in the army, addressed to me at the date of April 1st, 1891, the following note, which I copy verbatim:—

“As a sequel to overwork and, perhaps, to
“excess in another direction, I have suddenly
“been affected with headaches, congestion, dizziness, etc., which came on in the beginning of
“1889, and which have compelled me to take a
“complete rest. At the same time I experienced
“some slight impediment in my speech, which
“was increasing every day. Later on my head-

“aches diminished, but, on the other hand, I
“felt in all my limbs a kind of rheumatic pain,
“muscular contractions and cramps; at the same
“time the trouble with my speech was increasing.
“After diverse transformations of my malady,
“I feel now the following symptoms:—

“Continual heaviness in the head, as if the
“head were pressed in a vice; difficulty of speech
“more and more pronounced; great weakness
“in the lower part of the body, which makes
“walking and riding almost impossible.

“I have kept all my intellectual powers un-
“touched with the exception of the memory,
“which is enfeebled, and I am aware that I am
“unable to do any continuous work. I have the
“distinct feeling that my trouble is seated in the
“brain.

“I have exhausted up to this day all the
“remedies which doctors prescribe in similar
“cases, without, however, experiencing any appre-
“ciable improvement, and I see myself com-
“pelled, if this condition is to continue, to break
“off my career on the eve of being promoted to a
“generalship whilst I am still in full manhood.”

On my advice, M. X... came to Paris and began his treatment. From April 15th to May 12th M. X... went through twenty-one sittings, and received sixty-six injections of one cubic centimeter of orchitic juice. Improvement was felt from the very first day, and the patient's condition became rapidly better. On the day of M. X...’s departure I summed up in his presence, and with his agreement, his condition in the following note, which was meant for the doctor who was to continue the treatment:—

“Complete restoration of strength, the muscles are firm, the pains in the limbs and joints have disappeared, walking is easy and springy, and can be sustained for several hours. The headache, which has considerably lessened in intensity, disappears at times for several days in succession. The capacity for work is again normal; it has been tried during four and five consecutive hours without the appearance of the slightest fatigue. The mind has become quick and cheerful again. There is still a little impediment in speech, though this latter has become much freer since the treatment. What M. X... especially notices is a sensation of general well-being, which causes him to find life pleasant, and gives him back, together with hope, all the energy of his youth.”

The improvement has not been transient only, for the letter of M. X..., which intimates to me that he has happily reached the goal of his journey, is reassuring on this point:—

“I arrived yesterday, a little tired by the stormy weather that prevails. To-day no signs of fatigue are left, and I have taken up my work without the slightest difficulty. Monday I shall resume the treatment and follow the instructions you gave me.

“Let me thank you once more. “X...”

On May 21st I received another letter from M. X...:—

“Dear Doctor,

“I have taken up again the treatment on Monday last, as it had been arranged between us. The improvement ascertained on the day of my departure maintains itself, nay, becomes

“more marked. I have just come back from
“a march with my regiment, which lasted four
“consecutive days; during the last day we were
“drenched in rain, and in spite of having had
“my legs all wet through, I did not feel the
“slightest pains. In this stormy weather I am
“still a little troubled with my speech.

“One of my friends, who has seen the improve-
“ment my condition has undergone, and who
“marvels at the restoration of my strength, has
“made up his mind to give your method a trial.
“In consequence, I beg you kindly to send him
“at your earliest convenience a box of ten am-
“pullæ of your liquid.

“I close this letter in tendering to you once
“more my heartfelt thanks. “X...”

On June 30th the physician who makes the
injections of orchitic fluid on M. X..., who con-
tinues to receive them once a week, writes to
me the following letter:—

“Dear Sir,

“I have been much struck by the satisfactory
“results obtained from the use of your injec-
“tions of orchitic juice from guinea-pigs on
“M. X..., so that I feel quite disposed to take
“advantage of the kind offer you made me to
“put at my disposal a certain quantity of liquid
“with which to test my military patients. I
“therefore give you the following particulars
“as to the situation of,.....etc., etc.

“With regard to M. X..., all disturbances of
“which he complained have disappeared, with the
“exception of a slight impediment in his speech,
“which comes back at times without any appreci-
“able cause. But sleep, and along with it
“strength, have come back, no more pains in

“the limbs, no longer any headache. Walking, riding, have become as easy as they were in the palmiest days of M. X...’s long military career. The skin does its work well, and intellectual exertion produces no fatigue.

“I am, dear Sir, yours sincerely,

“Dr. X...,

“Army Surgeon of the 1st Class.”

Neurasthenia.

OBSERVATION I.

M. E.D..., thirty years of age, an engineer, as a result of worry is in the utter impossibility to attend to his work in one of the factories of the north of France, where he is employed. He suffered from violent headaches, from dizziness; there were also defects of the vision, sleep was restless, often agitated through hallucination, so that neither body nor mind could get any benefit from it. When M. E. D... walked, he became quickly tired; his limbs were aching, and felt as if they were bruised. His brain was unable to make any effort; his will was nil. Life was a burden to him; he wanted to die, but he had not the courage to do away with himself. The functions of digestion were perverted. Sometimes he felt an insatiable hunger, at other times he had no appetite at all. The generative functions

were totally abolished. Such was the condition of M. E. D... when he came to see me on the 5th of July, 1893. I immediately applied the treatment, which he stood quite well, at the dose of one cubic centimeter every day. At the end of a month he felt much better, and I received from him the following letter:—

“I see better, I may say I see almost well. My general condition is much improved; I eat with appetite, and enjoy good sleep. However, I still feel weak, and do not dare yet to resume work fully.”

On the 6th of October came another letter:—

“I feel thoroughly well. I have resumed my position at the factory, and I work with as much ease and courage as in my best days.

“Three weeks ago I was obliged to stop the injections. I had such marked erections at night that my sleep became disturbed by them. A little trip in sweet company to the coast of Brittany before I returned to take up work at the factory has convinced me in an unmistakable manner that I am thoroughly cured physically if not mentally.

“With my best thanks, believe me, dear Doctor,

“Yours respectfully and devotedly,
“E. D...”

OBSERVATION II.

Madam V..., thirty-four years of age, a schoolmistress, has been obliged to give up her work a year ago, after prolonged overwork and an attack of influenza. She has become quite unfit physically

and intellectually; she has scarcely the strength to think. At the slightest effort of her brain she is seized with violent pains at the vertex, pains which she likens to electric discharges through the head. If she stoops down she feels giddy and loses her balance. She is unable to read, because when she fixes the letters she feels her eyes burning just as if the letters were living fire. She cannot walk without assistance, as she would be unable to cross an open space, for she would be seized at once with agoraphobia. It is under these conditions that I began the treatment with the injections of orchitic juice at the dose of one cubic centimeter every other day, on November 29th, 1893. Six months later Madam V... had resumed her duties, which she has been carrying on since with the sole interruption of the usual annual holidays, which last a month. Madam V... has not ceased, since she is cured, to make an injection every week.

OBSERVATION III.

M. R..., twenty-four years old, a barrister, has a naturally feeble constitution. After overwork in view of his examination for the licence, he became neurasthenic. Incapable of doing any continuous work, he has been obliged to cease preparing his examination for the doctor degree. A stay in the country and a treatment of hydrotherapy had been of no avail. It was after this failure that M. R... came to consult me. I advised him to

try the injections of orchitic fluid. He began them accordingly on April 13th, 1895. Here is his full letter addressed to me on the 5th of June last:—

“ Dear Doctor,

“ I know your scepticism as regards protestations of gratitude, so I shall keep them for myself. I write simply to tell you about the results which have been obtained from the treatment I have undergone.

“ I shall, to make things clearer, divide this period, which goes from April 13th to June 4th, into two parts: the first one up to the 23rd of May, the second one from that day onward. Up to May 23rd: during these forty days I made sixteen injections. I noticed that there was a rapid improvement on the mental side. From the 18th to the 20th of April I began to be able to work in the morning during two consecutive hours; in the evening, however, work was very difficult still. I felt very sleepy, my eyes closed over the books, and I could never rivet my attention on any point. On May 23rd I had succeeded in doing a considerable amount of work in view of my examination. I was up at five in the morning, and used to work until seven. At half-past seven I went into the garden with my books, and worked without losing a minute until ten o'clock.

“ After breakfast, an hour's walk; then work at the library until five o'clock. After dinner, work for two more hours. Altogether ten or eleven hours of good work every day.

“ I am also gaining considerably in strength from a physical point of view.

“ During the treatment I have tried at different
“ times to put a greater interval between the
“ injections, but I notice at once that I am
“ falling back, and to put me up to the mark
“ again I was obliged to make injections on two
“ successive days.

“ In short, on the 23rd of May, my observations
“ are the following: The muscles made firmer,
“ the loins stronger, development of and heat
“ in the sexual organs, frequent desire; conse-
“ quently great improvement. I also feel energies
“ which I scarcely suspected to exist. I am
“ conscious of a strength and a superiority
“ which I did not know before. I feel intense
“ joy in life, in me and around me. It is a
“ delightful awakening of a poet and a lover.

“ Since May 23rd I have completely ceased
“ the injections, my provision of ampullæ being
“ exhausted. The improvement maintains itself.
“ Shall I, in spite of this, take up the treatment
“ again?

“ I am expecting your answer, and beg you to
“ be assured of my respect and devotion.

“ A. R...”

I could quote over hundred patients who suffered from neurasthenia, and whom I personally treated. They all found in the use of the injections of the orchitic juice the cure for which they had looked elsewhere in vain.

DR. L. H. GOIZET.

Congestion of the Spinal Cord.

Paraplegia.

OBSERVATION I.

Madam von B..., sixty years of age, has been suffering from paraplegia for the last four years. She has to be wheeled about in a bath-chair when she wants to go out for some fresh air. After one month of treatment at the rate of two injections of one cubic centimeter of orchitic juice every other day, Madam von B... is able to go upstairs to her room with the assistance of a stick. Six months of regular treatment sufficed to allow Madam von B... to take a daily walk of one hour without feeling the slightest fatigue. During two years the cure became only more confirmed. The general condition went on improving constantly. The digestive functions, which had been in a very bad state, recovered all their primitive energy. Madam von B... has ceased making injections for over thirteen years. She is to day over eighty, and her condition is very satisfactory indeed. Madam von B... has become an ardent supporter of the method. She caused my book, "*Force et Santé, La Vie prolongée par le methodé Brown-Séguard*," to be translated into several languages and printed at her own expense.

OBSERVATION II.

See page 24 the observation concerning M. Masseron.

Locomotor Ataxia.

Locomotor ataxia can always be traced back to the presence of a virus such as syphilitic virus, or to a diathesis such as gout, rheumatism, or herpetism, or to a poison such as alcohol or tobacco. The anatomical lesions which characterise this dreadful disease are atrophy and sclerosis of the posterior columns of the spinal cord.

Up to this day all known agents of external and internal therapy, from hydrotherapy, electricity, application of pointed actual cautery down to suspension, from iodide of potassium down to nitrate of silver, have always been notoriously powerless.

Since the failure of suspension, the discovery of Brown-Séquard has become the sole hope of ataxic patients. This hope is fortunately thoroughly justified by the results which I have obtained personally, and by all those which are stated in the communication made to the Academy of Science on the 27th of April, 1893.

The ataxic patients have now at their disposal an efficacious means of treatment and cure which they will hasten to take advantage of. But they must not forget that in consideration of the very nature of the anatomical lesions which constitute their disease the treatment must be of long duration in order to be efficacious. They will consequently lay in a stock of patience; this will be more easy as the progressive improvement which they will notice can only encourage them in persevering in their treatment.

The effects of orchitine on ataxic patients are to-day universally recognised. They are the obvious demonstration of the power of regeneration which this incomparable therapeutical agent possesses upon the nervous centres and on the spinal cord in particular.

Observation of a case of locomotor ataxia cured by the subcutaneous injections of a juice extracted from the testicles of freshly-killed guinea-pigs.

(A communication made at the sitting of the 30th of May, 1891, before the Biological Society of Paris, by Dr. Depoux).

M. X..., an ex-non-commissioned officer and late fencing master, came to consult me on the 1st of May, 1890. He had been ill since December, 1889, and had been obliged to go to the military hospital of the Val-de-Grâce in Paris.

M. du Cazal, the head surgeon, having ascertained that the patient was suffering from locomotor ataxia, and being unable to arrest the progress of the accidents, proposed him for invalidation, which was decided upon on April 22nd, 1890.

Before examining the patient, I asked him to give me information with regard to the beginning of the disease, of his condition at the time of his admission to the hospital, and of the diverse means employed by the physician who attended him.

(a) Beginning of the disease.—In December, 1889, the patient, who had the ganglia of the neck engorged, noticed that his gait was no longer so sure as it had been, and that the usual services which he expected from his legs in the exercise of his profession no longer had their habitual precision. When walking he always knocked on the ground with the heel in dragging the foot along. At that time he had red spots on both palms, which he mistook for callosities.

The want of balance whilst walking and in the different positions which he was obliged to assume having increased, the patient was obliged to go to the hospital.

(b) Condition at the time of admission to the Hospital of the Val-de-Grâce.—The disturbances in walking are much more marked than they were in the beginning. The patient is nevertheless able to step into an omnibus and to alight

from it without having it stopped, provided the pace of the horses is slightly slackened. It is after a fall in alighting from an omnibus that the patient makes up his mind to enter the hospital. He was at that time already incapable of exercising his profession as a fencing-master.

At the time of his admission at the hospital the physicians ascertain moreover: (1) The complete abolition of the patellar reflexes; (2) the very great diminution (almost the disappearance) of the potency of the genital organs; (3) the impossibility to stand on one leg with closed eyes.

During his stay at the hospital the patient is submitted to a strict observation, which discovers (1) that the patient is not aware of the position of his legs when he is in bed; (2) that there is no paralysis, as a very muscular assistant had been unable to bend the extended leg of the patient, in spite of full strength being used; (3) that the eyes were unimpaired—the examination of them had been made by head surgeon Chauvel; (4) that the accidents observed on the palms were of a syphilitic nature.

(c) Treatment undergone at the hospital. — Hydrotherapy in the shape of douches, pointed actual cautery along the spine, suspension (three times only), and iodide of potassium, such were the means employed at the military hospital of the Val-de-Grâce.

Iodide of potassium had been given at the beginning at the dose of 61.748 grains (four grammes), and in increasing it every day by

about eight grains (50 centigrammes) the daily dose of 216.118 grains (14 grammes) was reached, a dose which was administered during seventeen or eighteen consecutive days.

The patient, becoming constantly worse, in spite of this treatment, was invalided.

(d) The condition of the patient on the 1st of May, when he calls on me for the first time.—The patient, once in the causeway, is unable to step upon the pavement. He no longer walks, but in leaning upon a stick in one hand and resting upon the arm of the person who accompanies him with the other. When he is seated he experiences the greatest difficulty in rising from his seat, and is compelled to lean on his stick and hold someone else's hand. It is impossible for him to stand upright with closed eyes, with the legs either spread or drawn together. Every day he has cramps in his calves; there is anesthesia of the sole of the feet, complete abolition of the patellar reflex, absolute impotency of the genital organs. Besides, the palms and the fingers are the seat of formication and tremor; the lower lip and the upper lip are insensible; the sight is slightly weakened. The patient says that he has experienced at times fulgurating pains in the knees.

(e) Treatment by the subcutaneous injections of a juice extracted from the testicles of freshly-killed guinea-pigs.—The Professors of the Military School of Medicine of the Val-de-Grâce in Paris enjoy a well-deserved scientific reputation.

Before proposing a soldier for invalidation they regularly submit him to a severe and minute observation. I was then just confronted with a case recognised as incurable by M. Cazal, head surgeon in the army, Professor at the School of the Val-de-Grâce, as well as by the members of the Commission regularly appointed to examine the candidates for invalidation in the military sub-division of Paris.

I was entirely of the same opinion as my distinguished colleagues. However, as I had already obtained truly surprising cures by means of the subcutaneous injections with a liquid extracted from the testicles of guinea-pigs, I began on the spot the treatment which the world owes to the exertions and profound science of Brown-Séquard.

During three weeks from the 1st of May to the 21st, one injection of one cubic centimeter is made twice a week; from the 22nd of May to the end of July one injection of one cubic centimeter three times a week. No injection at all during the whole of August.

During that time every day ascending voltrisation along the spine: 10 milli-ampères during three minutes.

From the 1st of September to the 20th of October I made one injection every other day. On October 20th I stopped the treatment altogether.

One hour after each injection the patient always felt stronger. Already, after the first injection, he felt the good effects of this treat-

ment; at the fourth injection he was a little feverish; at the place where the needle had penetrated there was a swelling and a redness of about two to two inches and a half diameter.

At the end of June the patient began to be able to stoop down, to lunge, and also to dig with a spade. He could also go out for walks which lasted an hour.

On the 14th of July he was able to walk during five consecutive hours. At the end of October he began to give fencing lessons. Every day he worked at the fencing school, morning and evening.

In the month of December last he took part in a public match, and from this time onward he noticed every three weeks that he was progressing considerably.

The patient says that since the 7th of February (the day of the yearly fencing-match of his school) his strength has increased by over a fourth. He feels himself as strong and as healthy as he was before his illness. He has regained all his abilities as a fencer and as a teacher. He went through eight, ten, and even twelve consecutive fencing-matches in one day lately, and continues this performance. He only feels that his left leg is not quite so strong as his right. Moreover, I ascertain that the small patellar reflex has not entirely resumed its normal integrity.

Such a result, for which any commentary seems superfluous, has been obtained within four

months and a half of treatment, and seven months have now elapsed since the treatment was suspended.

The question to know whether locomotor ataxia, with its train of premonitory symptoms and its morbid manifestations, can disappear, so as to leave the patient with very slight troubles or none at all, namely, completely cured, may certainly be solved now in the affirmative.

The letters which I have received from a great number of physicians, and the publication of reports in America, in Russia, and elsewhere since my first note on the orchitic injections appeared in the Transactions of the Biological Society of Paris in 1889, go to show that locomotor ataxia can be cured, more or less completely, under the influence of the orchitic fluid upon the spinal cord.

No case has come to my knowledge where the cure has been so complete as in the subject whom I presented to the Biological Society. There remain in this fencing-master none of the symptoms which existed in such a marked degree, except, however, that the patellar reflex, though it has markedly gained, has not entirely resumed its normal energy. But the ataxia has ceased, the sensibility has come back (there is even now slight tactile hyperesthesia noticeable in the lower limbs, a phenomenon which is not rare after

anesthesia). The muscular sense in all its modes is perfect in the four limbs. The sexual potency which was quite lost, has come back to its former normal state. The muscles of the lower limbs, which were slightly atrophied, are now enormous and of a considerable density, as before the disease. Their vigour, which is exceptional, is not a whit inferior to what it was before the first symptoms of ataxia.

Is the lesion which is known to be present in tabetic ataxia still present in this fencing-master? Science knows at least of one case in which an individual who suffered from ataxia has been cured by elongation of the sciatic nerve, in spite of the persistence of the characteristic lesion of ataxia tabes, as was ascertained after his death, which was due to another cause. This fact cannot be contested, for it has been published by the late Professor Westphal, of Berlin, an eminent pupil of mine. It is, therefore, possible that the injections of orchitic liquid modified the dynamic condition of the spinal cord in the young man whom I presented to the Biological Society, and caused the morbid manifestations to cease without influencing the organic alteration of this nervous centre, which may still exist. This is a phenomenon which we often witness in other lesions of the encephalon or of the spinal cord, especially in those which produce

anesthesia, which, as is well known, may disappear completely in spite of the integral persistence of the lesion which produced it.

OBSERVATIONS MADE BY THE AUTHOR HIMSELF.*

OBSERVATION I.

M. G..., a notary, forty-four years of age, has been suffering from confirmed locomotor ataxia for five years. Alcoholic habits and syphilitic accidents which go twelve years back are the probable cause of the disease. The diagnosis has been studied by five physicians, amongst whom I shall quote Charcot and Alfred Fournier. Iodide of potassium at high doses, mercurial friction, hydrotherapy, pointed actual cautery, the waters of Lamalou, and suspension were the means employed by M. G... for five years, without having been able to stay the disease for one moment.

In the beginning of October, 1890, M. G... came to me for a treatment by subcutaneous injections of orchitic juice. At that time I noticed the following symptoms:—

*Extract from my book "Force et Santé, la Vie prolongée d'après le Méthode de Brown-Séguar."

1. Impossibility to walk without leaning on someone else's arm, or on a piece of furniture, or against a wall; also to stand with closed eyes; on the other hand, possibility to bend and to stretch the limbs.

2. Strabismus, retention of urine, obstinate constipation, convulsive contractions in the limbs.

3. Atrocious fulgurating pains in the thighs and the heels, complete loss of the genetic sense, anesthesia of the skin.

4. Appetite irregular, on the whole very small; sleep almost absent; considerable emaciation. M. G..., who, at the beginning of his disease, weighed 75 kilogrammes, that is to say, a little over eleven stone eleven pounds, weighs to-day 59 kilogrammes only, viz., a little over nine stone four pounds.

On the 9th of October I begin the treatment at the rate of three injections of one cubic centimeter of orchitine every other day during a month, which gives fifteen sittings and forty-five injections. I do not obtain the slightest improvement. M. G..., discouraged, suspends the treatment and returns to the province.

At the end of 1891 he suffers more than ever, and decides to resume the treatment, which is taken up again on March 28th. This time M. G..., on my entreaties, is entirely resolved to follow the treatment during six months, as he wants, he says, to make a clean breast of it. At the end of April we had had eighteen sittings and had not obtained any results.

At that moment I prescribe the simultaneous use of iodide of potassium at the dose of six grammes (92.60 grains) every day, and of Séquardian injections at the dose of two cubic centimeters every other day. On June 14th M. G... notices a very marked decrease in the fulgurating pains; his sleep is much better, the genetic potency is coming back, and his balance is more stable. I notice that my patient's gait is distinctly less inordinate, and that he walks with greater assurance. From this day onward the improvement already existing increases rapidly. The pains have completely disappeared on June the 25th, and on the 1st of July M. G... is able to walk by leaning on a stick. He writes and reads; the catheter becomes useless, and the urine flows out freely under the force of contraction of the bladder; defecation takes place without the help of enemata. The sensibility of the skin returns, the patient takes on flesh again. To-day, July the 31st, M. G... can walk without any stick. If he still throws his foot forward, he is, however, no longer afraid of being in the street, which he crosses without hesitation. The strabismus is scarcely noticeable, the fulgurating pains have totally disappeared from the thighs, and make themselves only rarely felt and with much less intensity in the heels. We have been striding fast towards cure for the last two months, that is to say, since we began the mixed treatment — iodide of potassium and injections of orchitine. During these two months sixty-one sittings have taken place, and 350 grammes (eleven ounces two drams) have been given.

M. G... was, after four months of treatment, in a very satisfactory condition. The cure has been maintained up to this day.

DR. GOIZET, Paris.

OBSERVATION II.

On the 7th of April, 1892, General L..., fifty-six years of age, who has been suffering from locomotor ataxia for the last ten years, comes to consult me. He is leaning on one side on his wife, on the other on Dr. C..., his military surgeon. It was with great difficulty that the General succeeded in crossing the courtyard of my house and in reaching my consultation-room, which is located on the ground floor. On that very day I made two injections of one cubic centimeter of orchitine, and Dr. C... was entrusted with the continuation of the treatment, which consisted in injecting alternately two cubic centimeters of orchitic juice and two cubic centimeters of cerebral juice.

On the 4th of May Dr. C... reports on the results obtained in the following letter:—

“ Dear Sir,

“ I am writing to you with regard to your
“ patient, who has been treated since April 7th
“ up to May 3rd with the Séquardian injections
“ of orchitic juice and cerebral juice alternately.

“ Before entering into any further details, I
“ will say that I am glad to report to you that
“ up to the present the results yielded by the
“ treatment are satisfactory. The pains are not
“ so sharp, they no longer remain localised for
“ days at the same spot. They do not last so
“ long, and the nights are on the whole better.
“ The patient felt at different times a sensation
“ of well-being which he had not experienced for
“ a long time. The gait has become more
“ regular, the equilibrium has increased in steady-
“ ness, even when the eyes are closed; the dura-
“ tion of walks, which your patient could not
“ protract more than five minutes without being
“ obliged to plump himself down on a seat, is
“ now of fifty minutes on flat ground. I may also
“ observe the coincidence of the improvement
“ of an eczema.

“ Under these conditions, faith would take hold,
“ I think, of the most sceptical of men. In pre-
“ sence of these results what are we to do? If
“ you think it fit to have the treatment continued,
“ please let us have some of your precious liquid
“ by return, so that we may suffer no interruption.
“ There is none left here. Finally, be so good
“ as to give me your instructions with regard to
“ the direction you contemplate giving to the
“ treatment.

“ Believe me, dear Sir, etc.,

“ Dr. C...,

“ Military Surgeon of the 1st Class.”

On May 26th I received another letter from
Dr. C...:—

“ My dear Sir,

“ The condition of the General continues to
“ improve since I wrote you on the 4th inst.

“ He has been able to keep on his feet for two
“ hours in order to attend an inspection of
“ lodgings in barracks, which means as much
“ as to say that he, a man who at the beginning
“ of the treatment was unable to walk ten minutes,
“ has been obliged to ascend and descend several
“ times the staircases of a high building.” The
“ gait is less and less hesitating, the co-ordination
“ has disappeared to a degree which renders it
“ difficult to detect to an untrained or unpreju-
“ diced eye.

“ There we have consequently an indisputable
“ improvement, the kind of which I have never
“ seen obtained by any known means, and which
“ is entirely due to your method. I am now
“ expecting your direction for the continuation
“ of the treatment, and I beg to,.....etc.

“ Dr. C...,

“ Military Surgeon of the 1st Class.”

At the end of July the General was as well as possible. I ordered the treatment to be suspended. The patient then went for a season at Aix-les-Bains. This is the bulletin of my patient's health, which was issued by his medical adviser at the end of the season, viz., on August 20th:—

“ Dear Doctor,

“ The General is back from Aix-les-Bains. I
“ have found him in the same condition as at
“ the time of his departure. The improvement in
“ the co-ordination of movements, the solidity
“ on his legs, the balance, the muscular strength,
“ in a word, all that we have gained is main-
“ tained. The General goes away for the great
“ manœuvres on September the 5th, and will

“ be back towards the 20th, so that he will not
“ be able to resume his treatment before that
“ date.

“ Believe me, etc.,

“ Dr. C...,

“ Head Surgeon of the 1st Class.”

“ St..., September 28th, 1892.

“ Dear Doctor,

“ The General has come back here, after
“ having gone through the manœuvres, without
“ being much the worse for it. I was glad to
“ see how favourably the treatment had influenced
“ our patient. The general condition is good;
“ the pains have completely disappeared, and the
“ results obtained with regard to muscular
“ strength, co-ordination of movements in the
“ lower limbs, as well as to the equilibrium in the
“ vertical station, have been maintained after a
“ suspension of the treatment which is already
“ of some duration.

“ There is certainly enough evidence to cause
“ the most obstinate sceptic to yield and own,
“ and when I see at times some of our colleagues
“ who have not experimented the Séquardian
“ injections mockingly smile when this treatment
“ is alluded to, I often regret that professional
“ etiquette prevents me from placing under their
“ eyes the observation taken on our patient. We
“ now think of resuming the treatment in order
“ to confirm the results obtained, and also to
“ secure more of them if possible.

“ We are expecting impatiently your advice
“ and the liquid.

“ Believe me, my dear Doctor, etc.

“ Dr. C...,

“ Head Surgeon of the 1st Class.”

I am exceptionally pleased in bringing this very complete and circumstantial observation to the notice of my readers, as this cure has throughout been watched day after day by a colleague who in the beginning had his doubts as to the success, but who, in the presence of accomplished facts, has become a fervent adept of the method.

DR. L. H. GOIZET.

OBSERVATION III.

M. R..., forty-five years of age, has been suffering from locomotor ataxia since 1886. Iodide of potassium, pointed actual cautery, hydrotherapy at Lamalou, suspension, such were the therapeutical agents employed with courage and perseverance without the slightest result from the beginning of the treatment up to the 9th of June, 1892, when M. R... made his first injection of orchitine. At that time he could no longer leave his office but by leaning on the arm of a valet; the pains were intolerable, and the nights sleepless. In November, after five months of treatment and eighty-one injections of one cubic centimeter of orchitine, he wrote me the following note:—

“ Walking is satisfactory; I ascend the stairs
“ as often as eight times in a day to the upper
“ story of the factory without too much fatigue.

"There is scarcely any pain left in the legs
 "I eat well and sleep soundly."

DR. GOIZET, Paris.

One hundred and twenty-three patients suffering from locomotor ataxia have been treated by me, and ninety-eight obtained gratifying results.

Hemiplegia.

Communication made by Dr. Goizet to the Biological Society of Paris, in the sitting of the 8th of November, 1890. (Observation V., pages 105 and 106 of the "Comptes Rendus" beginning with the words: "Le cas de M. C....., the case of M. C.....").

OBSERVATION I.

The case of M. C..., aged fifty-one, living at Levallois-Perret, is a curious one indeed. The question is in this case whether the cure was due to the orchitic fluid or to suggestion. It is difficult to give an answer to this query. However, the treatment produced, twice, an effect which borders on the miraculous.

After the first communication of Brown-Séquard, M. C..., who was at that time afflicted with a hemiplegia which was already several months old, begged his medical adviser to apply on him the new treatment. My colleague accordingly made every day, for four successive days,

several injections of orchitic fluid. At the end of four days the success was complete, and M. C... could walk without the help of a stick.

But all the injections having produced enormous abscesses, the patient and his physician abandoned the treatment.

None the less, M. C... remained under the influence of the treatment for two months and a half.

In August, 1890, M. C..., having heard that I was giving injections of orchitic fluid, wrote to me to ask whether I would consent to treat him. On my acceptance he came to my house, to which he had to be carried, as he was utterly incapable to ascend the stairs.

I began the treatment on the very same day, and as had been the case in the first instance, after four sittings of three injections each, the patient could walk without the assistance of a stick, and which is more surprising still, he scarcely dragged his foot along as he had done before. This latter improvement was to my knowledge maintained during several years.

(Extract from my book, "Force et Santé.")

OBSERVATION II.

The Countess de C..., fifty-eight years old, had an attack of cerebral apoplexy three weeks ago. Paralysis was complete on the right side. The loss of consciousness was absolute, and since the accident the paralytic patient, who was in a

constant comatose condition, had not uttered one word nor swallowed one drop of liquid. The mucus obstructed the bronchi, and expulsion had become impossible. Death was imminent.

On the entreaties of the husband and of the son of the patient, I made in the evening of that same day three injections of one cubic centimeter of orchitine, and repeated this dose the following days during six days.

On the sixth day Madame de C... recognised the people who were standing round her bed; on the following day, which was the seventh day of the treatment, she spoke in such a way as not to leave any doubt about her lucidity of mind. Every day brought new proofs that life was coming back. On the twentieth day Madame de C... easily expelled the mucus which obstructed her respiratory passages. She drank every day from two to three pints of milk, and on the twenty-fifth day she could move her leg. The improvement became more and more marked when, on the forty-fifth day after the treatment had begun, a new attack carried away Madame de C... within a few hours. I had made eighteen sittings in all.

It was plain to all those who had seen the treatment that the injections of orchitic fluid had allowed Madame de C... to live forty-five days longer than she would have done without them.



CHAPTER VI.

General Neurosis.

Hysteria, catalepsy, epilepsy, eclampsia, St. Vitus's dance, Parkinson's disease, hypochondriasis.

Whenever it is necessary to regulate the disturbed functions of the nervous system, when there is no organic alteration of the anatomical element present, the use of orchitic fluid is indicated, and its salutary effects are generally not long in making themselves felt.

The following observations will suffice to prove this:—

OBSERVATION I.

M. G..., a banker, forty-five years of age, was in the month of September, 1890, sorely tried. A real catastrophe had befallen his house. He then lost his wife and his only child, both carried off by typhoid fever. To follow upon this, his fortune,

which was depending on some financial speculation, was seriously compromised. An important law-suit obliged M. G... to indite a long memoir, to which M. G... had to devote all his nights for over a month. Overworked and worried, he fell one day in the street with a stroke of cerebral congestion, which disappeared after a fortnight. But from that time onward he felt often dizzy at short intervals; dysphoria in the most various forms manifested itself; the brain seemed crossed by a bar, the pupils were dilated; yawning, nausea, palpitation of the heart, dyspnea made life intolerable.

However, all these symptoms used to disappear pretty quickly and entirely as soon as the patient stretched himself out on his bed. This condition became only worse up to the month of December, in spite of full rest, a stay in the country, and an appropriate treatment.

It was at that time, December 4th, 1890, that M. G... began the treatment. On January 31st, 1891, less than two months after his first injection, the banker returned to his house in a perfect state of health, which has constantly been maintained since. Eighteen sittings and forty-six injections of one cubic centimeter of orchitic juice had sufficed, without the help of any other remedy, to bring about this remarkable result.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION II.

M. X... has been suffering from locomotor ataxia for the last twelve months. He is afflicted with nocturnal priapism, which comes on every night and lasts about five or six hours. This condition, which is an effect of his disease, is not only very irksome, but is becoming in the long run very painful and even intolerable. After six sittings of two subcutaneous injections of one cubic centimeter of orchitic fluid, the morbid phenomenon disappears, and has never appeared again since.

This observation shows us, better than many others, that the action of the orchitic fluid on the spinal cord is, above all, regulating and dynamogenous, an action which manifests itself quite as plainly in rendering the weakened genital organs their normal physiological powers, as it does in moderating the excited condition of these same organs, the functions of which have been thrown out of balance by disease.

(Extract from my book, "Force et Santé.")

OBSERVATION III.

Mademoiselle T..., twenty years old, has been suffering from hysteria for the last seven years. A full fit will burst out with all the usual symptoms, as they have been described by Professor Charcot, several times a month at the

slightest vexation. During the intervals which separate these fits of hysteria major, there are almost constantly present oöphoralgia, and two or three other circumscribed hysterical pains, the sensation of globus hystericus, palpitations of the heart, dyspnea and strangulation; the patient laughs without motive, and then cries, etc., etc.

On the 3rd of January, 1891, I submitted Mademoiselle T... to the treatment by subcutaneous injections of orchitic juice at the dose of one cubic centimeter per day. At the end of the first week of treatment the crises were more intense and followed nearer upon one another. The patient was in a state of extreme over-excitement. I then spread out the sittings, giving only one sitting a week, when I injected three cubic centimeters of liquid instead of only one. Mademoiselle T... had not had one single fit of hysteria major up to the 5th of February, and the state of the nerves had become also steadier.

On the 5th of February, under the influence of very great vexation, there is a fit of hysteria major, which, however, is not so long and less intense than the previous ones used to be. I continue the treatment up to the 5th of April, in bringing the dose of orchitic juice up to four cubic centimeters injected every five days.

For the last six months Mademoiselle T... has not had a single fit of hysteria major, and hysterical manifestations of all kinds have almost entirely disappeared since.

DR. GOIZET.

During the whole time of the treatment by means of subcutaneous injections of orchitic juice Mademoiselle T... took no medicine. I first had contented myself with ordering walks in the open air for several hours every day, and a daily tepid rain-douche. Hysteria is one of the forms of neurosis which exact the greatest amount of tact on the part of the medical practitioner with regard to the dosing of the injection. If success takes a long time to appear, if there is at times recrudescence in the intensity and number of fits, it is no reason to lose heart at all. A simple modification in the mode of administration sometimes suffices, as it is proved by the preceding observation.

I have noticed several times that after a period of over-excitement, calm was reinstated automatically without the need of change in the doses or in the mode of administration.

(Extract from my book, "Force et Santé.")

OBSERVATION IV.

M. X..., twenty-nine years of age, an office clerk, is taken twice or three times every month, when he least expects it, either at his office or in the street, but most often in the night, with a convulsive fit, the nature of which the different symptomic elements do not allow to call in

question: it is, undoubtedly a case of epilepsy. Bromides combined with purgatives had, during the first years—the crises are of eleven years' standing—delayed the crises and even diminished their intensity. But for the last five or six years these therapeutical agents have lost their action, in spite of the enormous dose which M. X... had, little by little, reached in the course of time.

In November, 1890, M. X... asked me to submit him to the method of Brown-Séquard. From the 16th of November, 1890, to the 31st of May, 1891, M. X... received regularly, twice a week, three injections of one cubic centimeter of orchitic juice; that is to say, he had fifty-two sittings, with one hundred and fifty-six injections. In this space of time, namely, in six months and a half, he had four fits—two in November, the third on December 8th, and the fourth on January 26th. From the 26th of January onward the patient felt, it is true, some apprehension; he noticed some warning signs, but he did not fall even once. On July 31st, that is to say, two months after the complete suspension of the injections, M. X... had a very short fit, very weak also, and during which—a very important feature indeed—there was neither absolute loss of consciousness nor emission of urine.

M. X... took up the treatment again on the 3rd of August, and no new manifestation has taken place since.

M. X... and another patient, on whom I made about twenty injections, are the only two cases of

epilepsy which I have personally treated by means of the subcutaneous injections of orchitic fluid. My two patients have obtained such satisfactory results that I feel encouraged in continuing my experiments. I can only urge my colleagues to follow my example.

DR. GOIZET

(Extract from my book, "Force et Santé.")

OBSERVATION V.

Mademoiselle H. K..., eighteen years old, has been suffering from St. Vitus's dance for the last four years. The courses appeared over three years ago, and have not reappeared since. This girl is not sufficiently developed for her age, her appetite is capricious, and on the whole light.

The disorder of her movements is pushed to the extreme. Mademoiselle H. K... walks with the greatest difficulty; she cannot follow up one and the same direction; she can scarcely bring her glass and her fork to her lips, and she performs the most hideous grimaces, etc., etc.

I begin the treatment on the 2nd of April, 1891, with one injection of one cubic centimeter of orchitic juice, and continue it at the same dose, which I repeat every other day. After twenty days of treatment and ten injections the patient feels much better.

On April 28th the courses come back, and the improvement is evident to everyone's eyes.

On May 25th Mademoiselle H. K..., who for the last ten days had been rid of her neurosis, saw a new recrudescence of the symptoms step in. But these symptoms disappeared three days later; at the same time the menses were coming back in a strong flow thirty days after the first reappearance.

Since that time St. Vitus's dance has not reappeared, the courses have come back at the expected time, and Mademoiselle H. K..., who has grown and developed rapidly, seems to be in perfect health. Fifty-two injections were made in four months.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION VI.

M. S..., sixty-five years of age, a barrister, has been suffering from paralysis agitans for the last five years. In January, 1891, when M. S... came to consult me, I noticed that there was an existing tremor in all limbs, which was, however, more marked on the left side; it was a hemiplegic form. His handwriting, with its irregular and thin strokes, limited in their amplitude, was characteristic enough. The movements were slow and embarrassed. The muscles of the neck and

of the nape, those of the limbs also, are rigid, and are the seat of continuous cramps. The body is strongly leaning forward, the face is motionless; when M. S... rises from a seat it looks as if he were set in motion by means of a spring; he **feels** an incessant need of walking and of moving about. When he walks he feels as if pushed forward.

Twenty-five sittings of subcutaneous injections of three cubic centimeters of orchitic fluid, given in two months, have brought about a very marked remission of the **d**iverse symptoms which I have just described. The handwriting especially has benefited by the good effects of the treatment. M. S..., who could scarcely sign his name when he came to see me for the first time, is able to write to-day a very legible letter of four pages. Constipation, which was M. S...’s constant preoccupation before his treatment, has completely ceased since. The stream of the urine has also considerably increased in strength.

DR. GOIZET.

(Extract from my book, “Force et Santé.”)

CHAPTER VII.

Rheumatic troubles.

The facts prove clearly the action of the orchitic fluid upon rheumatic patients. Perhaps this action is due to the property which the orchitic fluid possesses to increase in notable proportions the secretions of urine, to dissolve easily uric acid and acid urates, and to favour their elimination. Spermin and piperazin are dissolvants of the uric acid and of acid urates twenty times more potent than lithia. Now, these substances, which are constituent elements of the orchitic juice, have a dissolving and diuretic action which is far inferior to the one possessed by the orchitic juice itself, as has been proved in an irrefutable manner by the numerous comparative experiments which I made on this subject.

But it is, above all, to the special action which orchitine possesses to a supreme degree in re-

storing the power and harmony of the functions that the relief it brings to rheumatic patients is due.

OBSERVATION I.

Acute articular rheumatism.—M. D..., forty-nine years of age, has been suffering for the last five years from acute articular rheumatism. This rheumatism has successively invaded all joints, and had passed from the acute state into a chronic one without M. D... having been able to get back the use of his limbs. In September, 1890, when he came back from Eaux-Chandes, M. D..., tired with all the remedies which had been tried up to that time without result, caused me to be called, and asked me whether I were prepared to try on him the experiment of the regenerative method of Brown-Séguard. I consented without making any promise of any kind, as a matter of course. On the 29th of September, 1890, I began the injections of orchitic juice, which I made directly into the tissues which surround the knee-joint. Two injections of one cubic centimeter of orchitic fluid were made at each knee every other day. At the end of November, after thirty sittings, the general condition had very much improved, and the knees especially, which were in a very bad state before the treatment began, had undergone such gratifying transformation as to allow M. D... to walk about a little. The pains had almost entirely gone. The treatment

was continued up to April, 1891, the place where to make the injections having been changed, according to the necessity brought about by the refractory state of such and such an articulation.

The experiment tried has succeeded beyond any conceivable hope. M. D... is still rheumatic, it is true, in spite of his six months of treatment and his two hundred injections, but he can walk and look after his business now.

The general health has much gained by the treatment, and the patient, who has not ceased to follow his treatment for over three months, continues slowly but surely to get rid of his malady. M. D... was also suffering from a catarrh of the bronchi, of which he has been cured without any other remedy.

Other numerous observations confirm the beneficial action of the orchitic juice on catarrhal troubles of the bronchi.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION II.

M. A..., thirty-two years of age, born from gouty parents, had his first attack ten years ago. Every year he spends several months in his bed, and has not a single day free from pain. The slightest atmospheric changes cause him renewed suffering. Sadness, hypochondriasis, have been the result of this painful existence.

On the 3rd of April, 1891, I begin the treatment, at the rate of three injections of one cubic centimeter of orchitic fluid every other day. At the end of a fortnight M. A... was eating with an appetite he had not known for a long time; his digestion was good, and his sleep better still. He felt stronger, more supple and springy in his limbs; he had been able to take up fencing again, which had been abandoned a long time ago. Pains became every day less; at the same time cheerfulness and hope were coming back. On the 2nd of June M. A..., feeling pretty well, left for the country, where he continues the treatment. The improvement persists.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

Neuralgia—Muscular Rheumatism.

No other treatment ever gave results which, with regard to their efficacy and rapidity, can be compared with those I obtain every day by means of the injection of orchitine in all cases of neuralgia and of obstinate muscular rheumatism. It is not a rare occurrence to see one single sitting suffice to cause the disappearance of a pain of several years' standing. It is rarer still that twenty injections should not get the better of the most inveterate neuralgia.

CHAPTER VIII.

Skin Diseases.

The observations made by Dr. Suzor at Mauritius, and my own special observations made in the course of the treatment of complaints of the most varied forms by means of injections of orchitic fluid, led me to try this agent in certain skin diseases. I knew the dynamogenous and regulating action of orchitine on the diverse functions of the nervous system; it followed that I was fully entitled to make experiments in that direction, as in most cases skin troubles are nothing but the outward manifestation of a deep-set disturbance in the performance of the functions of the nervous system itself. Consequently, it is not to be marvelled at that my exertions in that direction were crowned with success.

OBSERVATION I.

Simple acne.—Mademoiselle X..., twenty years old, of a lymphatic temperament, is very much concerned in having for the last five or six years numerous pustules of acne all over the back, on the shoulders, and on her face. The forehead, the alae nasi, the cheeks, and the chin are studded with these pimples. Scabs, reddish patches, scars, show that the disease is already of old standing; little blotches, hard, red, and sensitive to the pressure of the finger, point out to the early formation of new pustules. The skin, which is uneven and furrowed, gives the face the repugnant aspect of small-pox after the period of desquamation. This is the ordinary process of acne. The general condition leaves much to be desired; the muscles are flabby, the ganglia of the neck are voluminous, the courses are spare, pale, irregular, and painful, the appetite is declining and capricious.

I begin the treatment in June, 1890, at the rate of two injections of one cubic centimeter every three days. One year later, in June, 1891, Mademoiselle X... is completely transformed. The functions of nutrition work orderly, the menses are normal, the muscles are firm and full, the skin smooth and even; it scarcely shows the trace of a few small white scars of old standing, which have a tendency to disappear and which certainly will do so in the course of

time. One hundred injections of one cubic centimeter sufficed to make of a repulsive being a beautiful, healthy young girl.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION II.

Acne punctata and pityriasis.—Madam A. D..., twenty-six years of age, an actress, has had for the last five years her forehead, chin, and nose covered with a multitude of black-tipped comedones; there are also little bran-like scales of white appearance, which fall from the scalp and the ears. The comedones thicken the skin and produce at its surface an oily oozing which is very shining and troublesome. The scalp is in a permanent state of irritation, which little by little brings about the premature falling out of the hair. In one word, Madam A. D... suffers from acne punctata of the face and from pityriasis of the scalp and the ears. I began the treatment on August 7th, 1890, with two injections of one cubic centimeter of orchitine, and continued to give the same dose every other day up to the 31st of August. The general condition had considerably improved, and the appearance of the face was also much better. Madam A. D... went away for a month, and took up the treatment again in October. When she came back I found her in

pretty much the same condition as the one in which I had left her.

On the following 15th of December Madam A. D... left Paris anew, but this time she was completely cured. Thirty-two sittings and sixty-four injections had sufficed to bring back the normal working of the system. Her strong appetite obliged her to take hearty meals; the digestion was, however, easy. Constipation, an ordinary condition with Madam A. D... before the treatment, had ceased to be present. Sleep was excellent and restful. Through this renovation of the general condition acne and pityriasis disappeared.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION III.

Chronic eczema of the face.—Mademoiselle G..., twenty-eight years of age, has for the last ten years been visiting all the water resorts, where she rigorously followed the prescriptions of the most famed specialists. She rarely, however, obtained even short amelioration. The eczema gave her now and then a few weeks of respite, but did not one single time disappear entirely. The face is covered all over with a thick coat, which is cracked at places. The scales are considerably thick. The appearance is repulsive. The edge

of the eyelids, the lips, the nostrils, are covered with the disease.

The patient begins the treatment on the 10th of November, two months after her return from La Bourboule.

Mademoiselle G..., who bears the injections admirably well, received every week, from the 10th of November, 1890, to the 10th of March, 1891, six injections of one cubic centimeter of orchitine, that is to say, ninety-nine injections in thirty-eight sittings. Since February 20th there is no trace left of eczema, and since March, although Mademoiselle G... has stopped the treatment entirely, there has not been the slightest recurrence of the disease. Everything points out to a final cure.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

OBSERVATION IV.

Cachectic ecthyma.—M. R..., forty-three years old, is suffering from well-characterised cachectic ecthyma. There are on both legs forty to fifty crusts, which under slight pressure yield a sanious discharge, half serous, half purulent. Under these crusts exist deep greyish ulcerations, the aspect of which gives very little hope to ever see them healed. The patient is in a frightful state of debility and thinness. He often has diarrhœa, and appetite is almost inexistent.

This is a cure in which I have only a very limited confidence, and which I undertake, moved simply by M. R...’s entreaties.

On the 19th of January, 1891, I make one injection of one cubic centimeter of orchitine, and continue to give the same dose without break up to the 31st of January. The strength of the patient begins to improve, and the suppuration is less abundant; appetite and sleep are restored, diarrhœa has ceased. I continue the treatment by a sitting of two injections every other day, during February; at that time the crusts are dry, and no liquid oozes out on pressure. The ulcerations are healed, and the general condition of the patient is very satisfactory. During the whole month of March I give only one sitting of three injections every week. A few baths suffice to cause the crusts to fall away; the presence of the ecthyma is revealed by the scars only, and M. R... is cured.

DR. GOIZET.

(Extract from my book, “Force et Santé.”)

OBSERVATION V.

Psoriasis universalis.—M. V. C..., forty-three years of age, has been suffering since he was fourteen from a psoriasis in more or less large patches, which present a very thick squammate surface. The patches are found on the neck, the face, the arms, the elbows, the breeches, the thighs, and the knees. All the specialists have

been consulted, all the treatments tried, both without results. At five different times the patient stayed at the hospital of St. Louis in Paris, each time for several months, with little avail.

M. V. C... came to consult me on April 11th, 1891, and I began the injections of orchitine on that very same day, at the rate of one cubic centimeter every day. The treatment was continued at the same dose up to August 30th, that is to say, during hundred and forty-two days.

On April 28th the patient noticed that the patches became paler, and from that time onward the cure became every day more confirmed, and became final in the beginning of the following month of August.

M. V. C... stopped every treatment on the 30th of August, 1892, and the cure has been maintained all this time, during nearly five years. One hundred and forty-two injections had been made, one hundred and forty-two cubic centimeters of orchitine injected.

To-day the injections of orchitic fluid constitute one of the principal elements of treatment of the refractory skin diseases at the hospital St. Louis in Paris.

DR. GOIZET.

CHAPTER IX.

Diseases of the Heart.

OBSERVATION I.

M. R..., fifty-one years of age, a man of letters, well known in the French Press, has been suffering for many years from hypertrophy of the heart, a malady which I think hereditary with him.

For the last four years, as a sequel to worry, to which followed alcoholic excess, the disease has progressed rapidly. Walking, which had become more and more difficult, has since four months become entirely impossible; the respiratory organs, obstructed as a result of a bad circulation, have become the seat of very irksome catarrhal bronchitis; edema, which for a long time had been limited to the malleoli in the evening, has gradually seized upon the calves, the thighs, the scrotum, and the peritoneum; sleep, which for a long time back had no longer been possible otherwise than in an armchair, or

in the bed, with the trunk supported in an upright position by means of several layers of pillows, has completely disappeared these last two months. All the nourishment the patient takes is reduced to a few cups of milk or of broth. Edema is now so considerable that two or three sphaceli have appeared on the left leg, and the gangrenous spots constantly yield the infiltrated liquid. Since the 10th of February last the patient is so weak that there are syncope several times in a day, and that hallucination is constant. Macerations of digitalis, injections of coffeine at a strong dose, drastic purgatives, milk cure, bring only very transient relief, which is scarcely noticed by the patient. Urine is very thick, death seems to be impending. On February 22nd I make four injections of orchitine of one cubic centimeter each. On the following day there was no appearance of syncope. I then make again four injections, after which the patient sleeps for five hours in his armchair, and feels the better for it. From this day onward milk is tolerated at the rate of three liters every twenty-four hours; the quantity of urine increases; the tone of the heart is improved. On the 27th I give a third sitting of four injections; the patient sleeps the full night, supported by pillows. The voice, which had disappeared, has come back; the quantity of urine measures about three pints; dropsy diminishes rapidly. On the 8th of March we give the fifth sitting: the appetite is excellent, the cough, together with the oppression, has subsided. On the 18th of March M. R... goes

out for the third time; he walks down the whole length of the Avenue des Champs Elysées and of the boulevards, and calls on me for his eighth sitting. Edema has completely disappeared, and there is no manifestation of it even in the evening. M. R... resumes his work and writes his articles regularly. It is a real resurrection.

The hypertrophy subsists, as a matter of course, but the patient eats, works, sleeps stretched out as everyone does, and takes his daily constitutional. Cough and sputum no longer trouble him; he ascends stairs with some difficulty, but does not feel the exertion unbearable. In a word, M. R... feels better than he ever did for the last five years.

DR. GOIZET.

(Extract from my book, "Force et Santé.")

For the last seven years I have treated over eighty sufferers from organic diseases of the heart, and all with success by means of injections of orchitine. At this very moment I am attending one of our most popular writers, who for the last four years has lived and worked under the sole influence of the Séquardian injections.

How would it be possible to explain these phenomena otherwise than by an essentially tonic action of orchitine upon the central nervous system? If we compare these observations with the case of the sculptor Masseron (communication

of November 8th, 1890, before the Biological Society of Paris), we are entitled to state that orchitine acted upon the patients under observation in the same way as does digitalis. This is also the opinion of an eminent Russian professor, who thinks that orchitine has a tonic and regulating action which tends to restore the physiological functions of the heart.

But this action is of only a transient character, and the injections must be taken up from time to time at the first manifestation of a failing or of some disorder in the functions of the organ.



CHAPTER X.

The Stomach.

Action of orchitine upon the digestive organs.

The improvement of appetite and the ease with which the food is digested are the first manifestations of the treatment by orchitic fluid. Most of the observations contained in this volume, and especially those on M. H. S... and on Madame de C... (see page 163 and page 212), go to prove the fact. Therefore, I consider it as superfluous to consign here pathological and therapeutical facts where the stomach is alone interested.

Further, the special case of Professor Brown-Séquard himself, the observations of Mairet of Montpellier, and those which are my own, show in a sufficiently clear manner how powerful the action of orchitine is on defecation, and consequently on oppilation, to dispense me from re-

peating at this place observations on this special subject.

The reader may find on nearly every page of this book precise facts which are of such a nature as to inform him on the beneficial influence of orchitine in all cases where the digestive functions, being disturbed by disease, need to be restored to their normal activity. Whenever the stomach, the liver, the pancreas, or the intestine are in want of powerful stimulant, these important organs will surely meet it in orchitine employed in the form of subcutaneous injections or of enemata.



CHAPTER XI.

Diseases of the respiratory passages.

OBSERVATION I.

Weakening of vocal power.—M. X..., a baritone, thirty years of age, has partly lost his voice after an attack of influenza, so that he was obliged to give up singing from February to October, 1890.

From the 5th of October to the 15th of November I made, in sixteen sittings, thirty-two injections of one cubic centimeter of orchitic juice, and since then M. X... has been able to resume his parts, and to hold them with brilliancy. Whenever M. X... has to impose upon his voice a greater strain than usual, he calls on me in the week which precedes the performance in order to get injected a few cubic centimeters of orchitic juice. He maintains that this means acts infallibly with him.

(Extract from my book, "Force et Santé.")

OBSERVATION II.

Catarrhal bronchitis.—M. L... de G..., sixty years old, has been suffering for the last ten years from chronic catarrh of the bronchi, with hypersecretion of sticking, viscous, and slimy mucus, very much like raw whites of eggs. The expulsion of this sputum necessitated efforts and fits of coughing of such violence that M. L... de G... was often obliged to sit down or lean upon something in holding his head during the fit.

On the 2nd of January, 1891, when M. L... de G... first called on me, I made him three injections of one cubic centimeter of orchitic fluid. I continued at the same rate twice a week up to the 10th of April. In all we had twenty-six sittings, and I made seventy-eight injections. Already in February M. L... de G... was much better; at the end of March he no longer coughed, the secretions of the bronchi were normal, and he could sleep the whole night through.

OBSERVATION III.

“ Paris, December 19th, 1893.

“ Dear Doctor,

“ I come to report on the use I made of the
“ ampullæ of orchitine which you gave me in
“ October last.

“ My condition was not too bad considering my
“ age (sixty-six), but I could not walk without the
“ sensation of extreme fatigue, of profuse sweat-

“ing, of puffing and blowing; I constantly
“coughed, and dared not, afflicted as I was with
“an abominable catarrh, call on anyone. My
“spittoons got filled in a twinkling by day and
“by night, and I was full aware that in a few
“months I should be nothing but a cacochymic
“old man confined to an armchair. Farewell
“activity and well-being! But from the third
“injection onward there was a marked change:
“no more sweats, no more fatigue, and I hap-
“pened to cough no longer. The bad weather
“which I had dreaded up to then left me totally
“indifferent. It seemed as if I were twenty years
“younger. When all the ampullæ were used
“up, the improvement became more marked, and
“has been maintained.

“I began in the middle of October, and we
“are now at the end of December; the improved
“condition has now been lasting for seven weeks.
“Shall I resume the treatment?

“This is my report, and I tender you my
“heartfelt thanks.

“Yours faithfully,

“B. V. Viguier,

“Proof-reader.

“229 Rue de Belleville.”

*Statement of new facts which show the potency
of the orchitic fluid in combating the effects of
pulmonary tuberculosis.*

“Dr. Goizet has recently made an interesting
communication to the Biological Society of Paris,
in which he reports upon facts which I shall

briefly discuss presently. His researches have been directed towards the treatment of pulmonary tuberculosis by means of injections of orchitic liquid. He would have brought them to light long ago had he not consented, on my advice, to investigate still further into the matter. On three individuals suffering from pulmonary tuberculosis, second degree, he had been making for some time subcutaneous antiseptic injections with some result. On my suggestion, he applied upon them in June last a mixed treatment consisting in alternate injections of orchitic fluid and antiseptic substances. After three weeks of this treatment the three patients no longer coughed; the sputum, the fever, the sweats, had disappeared; their appetite was excellent. They were regaining strength and were putting on flesh. To-day, after six months of injections, Dr. Goizet considers them all as cured. It seems, in consequence, according to these facts, that the symptoms of pulmonary phthisis are liable to disappear under the dynamogenous influence of orchitic fluid.

“ In his communication to the Biological Society (“ Mémoires,” 1890, page 101), Dr. Goizet reports of several remarkable facts. The first of these facts concerns a patient who was about dying, and who presented extremely serious symptoms. This patient was called back to life by means of

subcutaneous injections of orchitic liquid extracted from young guinea-pigs. Twenty-two sittings and one hundred and sixteen injections were necessary to bring about this result. The fourth observation of the author concerns an ataxic patient with central myelitis. A considerable improvement has been obtained rapidly.

“These facts show what hundreds of observations have already established, namely, that in spite of the more or less complete persistence of certain organic lesions, the orchitic juice is able to cause the effects, which these lesions had produced, to disappear.

“I think it may be as well to say it again here that, in many cases, it is necessary to give the injections every other day or every three days, or even every day during several weeks if one wants to ascertain positively whether the orchitic fluid can act favourably or not. These cases are those where there exists a powerful cause of debility with marked perturbation of the principal organic functions.

“I have only one conclusion to draw from the facts reported in this article, and that is that just as vigorous, healthy young men resorb in their system certain elements contained in their sperm which help them to keep up their vigour and health, so, too, the injection under the skin of a liquid extracted from the testicles of mam-

malia in good health may in a sick man produce a twofold effect: first, increase his strength, secondly, improve and cure various morbid conditions, thanks to an increase of strength in the nervous centres."

Professor Brown-Séquard,

Biological Society of Paris,

December 14th, 1890.



CHAPTER XII.

Pulmonary Consumption.

Treated and cured by my method. Numerous observations of cases treated and cured.

For over twenty years I have constantly busied myself with the terrible disease which claims the fourth part of the death-rate of our large cities. I have been constantly fighting, I have taken advantage of every discovery, and have tried everything, so that I may say that I have experienced all hopes and also all disappointments. To-day the breach is made, and I am firmly convinced that the besiegers will soon be in the fortress. I belong to their ranks. If I cannot claim the honour of being the first, I at least shall always feel proud for having helped the day to be carried.

In the actual state of the question the treatment of phthisical patients may be summed up as follows: — (1) Attack Koch's bacillus with one or more antiseptic agents; (2) sustain and raise the strength of the patients by different means so as to give the antiseptics the time to drive out or to kill the bacillus.

Among the numerous antiseptics which have been tried, the one which my long experience has shown me to possess a real power is hydrous phosphate of copper. It was an agent difficult to administer on account of its insolubility and the pain which its introduction into the tissues causes. By dint of research I have succeeded in finding a vehicle absolutely sterilised which, at the same time as it takes with advantage the place of glycerine hitherto employed, reduces the pain to a minimum and makes the injection bearable to the most nervous subjects. The slow absorption of the hydrous phosphate of copper introduced into the subcutaneous tissues waives every apprehension of danger. Over two thousand injections, made on patients of the most diverse temperaments, never gave rise to the slightest uneasiness. These injections have besides another very great advantage, which is to necessitate renewing only every eight or ten days. Consequently, it is to the hydrous phosphate of copper that I usually take recourse in order

to attack the bacillus by way of subcutaneous absorption. But there also exist antiseptic agents which can penetrate directly into the respiratory passages, and which, though less efficacious, are, all the same, powerful auxiliaries which ought not to be neglected. I have in mind certain gaseous or volatile bodies, such as ozone, thymol, carbolic acid, eucalyptol, tar, turpentine, creosote, etc., etc. In a word, all the bodies which compose the aromatic series. I use these agents in light inhalations in the patient's room during the night and even during the day when he has to stay indoors.

It is specially when the larynx and the bronchi are the seat of tuberculosis ulcerations and the receptacle of secretions and mucopurulent sputum infected by the bacilli that these inhalations are most useful.

To sustain and raise the strength of phthisical patients, the subcutaneous injections of orchitine must not be compared with any other tonic. They have a preponderous and rapid action which manifests itself by the lowering of temperature, the return of the appetite, the disappearance of sweats and of diarrhœa. Thanks to the injections, the patient soon resumes courage and hope. If you add to this the purity of the air breathed, the uniform temperature, abundant food, given by all possible means, natural and artificial, in-

cluding gavage, diverse revulsives, and more particularly pointed actual cautery, large poultices with mustard, and also half baths with the same substance, you will possess the secret of the treatment which has given me real and irrefutable successes. Subcutaneous injections of hydrous phosphate of copper and of orchitine, inhalations of ozone or of substances of the aromatic series, revulsives, aeration, appropriate feeding, that is my method.

I can declare that this method, used intelligently and sagaciously, ensures success in the enormous proportion of 80 per cent. of the cases treated. Phthisical patients of the first and of the second degree may come to us with assurance; with a very few exceptions they are sure to get cured. The following observations are a living proof of what I am putting forward. Those who have benefited by my method are there, everyone may see them, ask them questions, examine them.

With phthisical patients at the last stage, hydrous phosphate of copper and inhalations have lost their power, but orchitic fluid can still be applied, and it is unquestionably the most certain means of prolonging a life which is oozing out.

As may be seen from what has been said, orchitic fluid is not a remedy against phthisis; it is in this particular case, as in many others, nothing more than an auxiliary. But this auxi-

liary is so powerful that without it the direct antiseptic agents fail certainly. After what I have done and what I have seen, it is not allowed to deny that the discovery of Brown-Séquard is in the treatment of phthisical patients a factor which one not only ought not to neglect, but without which there is no salvation possible.

As far back as April, 1890, that is to say, long before the memoir of Dr. Ouspensky was issued, I had made use of Séquardian injections on phthisical patients, and I should have announced the results of my researches long before my colleague of St. Petersburg, had not my illustrious master, Brown-Séquard, advised me to wait, as he says himself in his communication to the Biological Society on December 14th, 1890.

The three patients with whom Brown-Séquard's note deals were consumptives of the second stage. These patients, who were under treatment since April, and whom I considered as cured on the 14th of December, have been constantly watched by me since, and I can affirm that the cure has been maintained throughout.

Since the communication made to the Biological Society I have treated with success a great number of patients suffering from diverse forms of tuberculosis. I shall content myself, in order not to run into useless repetition, with the seven following observations:—

OBSERVATION I.

M. D..., thirty years of age, of a vigorous constitution, born of healthy, young, and vigorous parents, caught in the midst of perfect health a chill, which gave rise to a double pleurisy with effusion, more considerable on the left than on the right. From this M. D... could not recover, and as soon as he tried to resume work, he again began to cough. His strength, instead of improving, only continued to diminish; his appetite was bad; fits of coughing, which came on frequently after meals, brought on vomiting of blood. The patient, tired out in the evening, dined without appetite, was feverish, slept badly, and towards three o'clock in the morning began to be bathed in sweat. The temperature, which was regularly taken every evening, varied between 100.4 degrees and 101.3 degrees, to fall to 99.3 degrees or 98.6 degrees in the evening. Digestion was shockingly bad, the abdomen was distended, painful, and the patient had regularly four or five big liquid motions in twenty-four hours. Emaciation progressed so rapidly that from the 6th of October, 1888, to the 10th of March, 1889, that is to say, within five months, M. D... saw his weight fall from twelve stone one pound and a half to nine stone eight pounds and a half. In January, 1889, percussion detected very pronounced dullness on the left in the supraspinous and subspinous fossæ. Auscultation revealed short, rough breathing, with very marked souffle at

the left apex. In February the superior third of the lung was the seat of moist râles. At the same time coughing became less dry, sputum was green and more abundant. Doubt was no longer possible: it was phthisis, which developed rapidly in the lung. At the beginning of March the half of the left lung was invaded by the disease, and I could already hear a few crackling bruits at the summit of the right lung. The examination of sputum at the microscope revealed the presence of a great number of Koch's bacilli.

At this precise date, March 10th, 1889, I began the subcutaneous injections of hydrous phosphate of copper at the rate of one injection every week of one cubic centimeter of a mixture of one in ten hydrous phosphate of copper and gelatin. Already after the third injection the fever abated, and the thermometer registered not more than 99.5 degrees in the evening and 98 degrees in the morning. Sweats also were stopped, the appetite was beginning to come back, digestion improved, the diarrhœa was receding, and there was only one liquid motion every day. The patient went out of doors several times in the afternoon in the course of April, and at the end of the month the weight of the body had risen to nine stone thirteen pounds and a half, which was a gain of five pounds within fifty days. Strength had improved sufficiently to allow M. D... to look after his business for a few hours. At the end of April, I had made only six injections. Auscultation still revealed moist râles in the left lung and some crepitation in the right. However,

there was no doubt that breathing was improving, and that the patient's condition was better. The disease had relaxed its grip under the beneficial influence of hydrous phosphate of copper. But, in spite of more injections, the condition of the left side remained unchanged. On the right crepitation had disappeared, and with the exception of the harshness of the bruits, the breathing had become almost normal.

Upon the whole M. D... was satisfied with his condition when, on the 25th of October, he was caught for a few minutes in a downpour. On the following day he had a cold, which was not long to start new trouble in the right lung. Within twenty days M. D... was again taken with fever in the evening, felt stitches in the side, was troubled with night sweats, had lost all appetite, and weighed no more than nine stone. The thermometer registered from 101.3 degrees to 102.2 degrees in the evening, and did not fall below 100.4 degrees in the morning. In spite of all my efforts, these twenty days had sufficed to bring back to the right lung, in the whole extent of the anterior subclavian fossa, the same disorders as those existing in the left lung. I then shortened the intervals between successive injections of hydrous phosphate of copper, and made them alternately on the left and on the right every four days.

From the 15th of November, 1889, to the 2nd of January, 1890, I thus made twelve injections. The same effect as at the first time was produced: fever disappeared and also sweating, the appetite

came back, together with a slight increase in corpulency (nine stone six pounds and a half), in spite of the abundance of sputum. Things were then at a standstill up to April. I made an injection every fortnight. The strength was still low, in spite of more favourable weather.

At this time, in the course of April, I proposed to M. D... to make him injections of orchitic juice concurrently with the injections of hydrous phosphate of copper. I began on that very day with injecting two cubic centimeters of orchitic fluid every week, with one antiseptic injection of hydrous phosphate of copper. On the 22nd of July I had made eleven injections of hydrous phosphate of copper and forty-four injections of orchitic fluid in eighty days. M. D... no longer coughed, he spat very little, he walked, ascended stairs as everyone else, ate with a good appetite, and slept soundly. His weight had come back to eleven stone four pounds and a half; M. D... had thus gained one stone twelve pounds and a half. Auscultation still revealed from time to time some sibilant râles, and the analysis of the sputum allowed to detect the presence of a small amount of Koch's bacilli.

I consider M. D... as cured, for since the 2nd of July 1890, that is to say, during the last twenty-one years, the disease has not manifested itself by any symptom whatever; neither the examination of the sputum, nor percussion, nor auscultation, would permit the most experienced physician to ascertain the disorders which existed to such a high degree in the two lungs. M. D... weighs

to-day twelve stone eight pounds and a half, which means six pounds and a half more than before his illness.

OBSERVATION II.

In 1892, one of M. D...’s children, a boy of the age of nine, was taken with disquieting symptoms at the left apex, with coughing, attendant fever in the evening, at 102.2 degrees, loss of appetite and vomiting. The eyes were bright, emaciation came on with terrific rapidity. Auscultation and percussion revealed evident signs of induration. The condition of the abdomen did not supply any signs of typhoid fever. Local revulsives, quinine hydrochlorate, did not bring any abatement of the alarming symptoms, which became every day more marked. I then advised that a consultation ought to take place with Dr. Jules Simon, of the Children’s Hospital in Paris. This physician’s diagnosis was one of acute tuberculosis, with induration of the left summit, and he fell the most unfavourable prognosis. After eight days of the treatment indicated, the child declined more and more, so that doubt was no longer allowed. In agreement with the wish of the parents, who had already asked me why in this case I did not make the injections which had given such good results with the father, I made on this very day an injection of one cubic centimeter of orchitic fluid, and at the same time stopped the other treatment. During the night which fol-

lowed upon the injection the thermometer registered not more than 100.4 degrees, and on the next morning only 99.7 degrees. I continued the injections at the rate of one injection of one cubic centimeter every day. After a fortnight the child was on its feet again; there was no longer any fever in the evening, nor any coughing; the breath was no longer short, and the appetite left nothing to be desired. I ordered the little patient to the country, in the open air, and began the mixed treatment, viz., one injection of orchitine every other day and one cupric injection every five days. As the digestive functions were in perfect order, I gave the patient, beside the injections, pills made up of a mixture of iodoform and creosote. The treatment lasted three months. The child came back to Paris, resumed its studies, and not the least alarming symptom has been observed since. This case dates eighteen years back, so that I think I may reckon it among my cures.

OBSERVATION III.

M. D..., thirty-seven years of age, has been coughing and spitting for many a winter. He is constantly hoarse, and several examinations with the laryngoscope performed by distinguished specialists have all given an identical diagnosis, viz., laryngeal phthisis. In January 1890, he had a very severe attack of influenza, when he saw that his condition was getting worse, so much so that

in February the whole summit of the right lung was invaded by tuberculosis, the material presence of which was revealed to auscultation by moist râles. The general condition was pitiable in the extreme; the sputum was of a greenish yellow, was abundant, and very difficult to expectorate. The sweats were profuse, so much so that the patient was obliged to change his linen three times and even four times in the night. The appetite was non-existent; the food, taken reluctantly, was nearly always rejected by vomiting which occurred after fits of coughing. The decline was considerable. From January to February M. D... has got thinner by twenty pounds (from one hundred and thirty-five pounds to one hundred and fifteen).

On February 16th I begin the injections of hydrous phosphate of copper at the rate of one cubic centimeter every week, and I prescribe permanent inhalations in the patient's room of carbolic acid, turpentine and tar. On March 8th, after four injections of hydrous phosphate of copper, the acute condition had ceased; the progress of the disease was stopped; the patient was better. I continued the injections of hydrous phosphate of copper and the inhalations until April. The improvement went on, and M. D... was able to come down from his room and to go out for a short time during the day. But the examination of the sputum and of the larynx, and auscultation, did not allow to doubt that the improvement was only of a temporary character. Besides, the strength did not come back, the

feet remained swollen, and there was very little appetite. In spite of overfeeding by means of gavage, the weight of the body had increased by two pounds only. I resolved to try the use of orchitic juice in subcutaneous injections given concurrently with the injections of hydrous phosphate of copper. On the 22nd of April, I made two injections of one cubic centimeter of orchitic juice and one injection of hydrous phosphate of copper, and continued in this way up to the 6th of August, giving four injections of hydrous phosphate of copper every week. From April 22nd to August 6th, in three months and a half, I have made fifteen injections of hydrous phosphate of copper and sixty injections of orchitic juice. M. D... was completely cured; he had reached the weight of one hundred and forty pounds, that is to say, five pounds more than he ever had been before. Since then the cure has been maintained without a break, and everything points out to a final cure. All physiological functions of respiration and digestion are performed normally. The voice is clear, the examination at the laryngoscope shows neither ulcerations nor granulations; the sputum contains no bacilli, and auscultation reveals no traces of the former lesions in the lungs.

(Extract from my book, "Force et Santé.")

OBSERVATION IV.

M. G..., nineteen years of age, a clerk at the gasworks, robust, well-developed, gets pleurisy with liquid effusion on the right side on April 27th.

On May 11th paracentesis yields over two pounds of purulent liquid. After the paracentesis the condition of the patient remains indifferent; but already, in the course of June, the tubercles develop at the summit of the left lung, and phthisis follows an acute progress which forebodes a fatal and near end. On June 23rd I start at once with the mixed treatment, and begin the injections of orchitic fluid, to be given every other day. On the 14th of the following July the disease was arrested, and on the 12th of August M. G... was on his feet again. On September 23rd he was cured, and resumed his work. In three months I had carried out the cure by means of nineteen injections of hydrous phosphate of copper and ninety-two injections of orchitic juice. Up to this time nothing has come to interfere with the good results obtained, and the present gives hopes for the future.

I have heard that this young man was accepted by the Council of Revision to do his military service in the artillery, through which he went in one of the garrisons in the east of France.

OBSERVATION V.

M. A..., thirty-six years of age, a clerk in a bank, belongs to a family of tuberculous subjects. His mother had died at the age of thirty-eight; the father was herpetic, gouty, was suffering from catarrh and heart disease; he died at the age of sixty-two, after progressive accidents due to a valvular insufficiency of rheumatic origin. Five children of seven had died from pulmonary phthisis within four years, at ages varying be-

tween twenty-two and twenty-three. The only living brother of the patient, who is now twenty-four, and M. A... himself, with whom this observation is concerned, are both afflicted with tuberculosis. For the last seven years I attend M. A..., and every year, in the course of November, with the exception of November last, morbid accidents of the same nature occurred four times in the right lung and twice in the left. These accidents consist of a congestive condition, accompanied with coughing, with a dull pain in the back, considerable oppression followed by abundant hemoptysis, which lasts several days. Then shivering comes on, there is fever in the evening, there are night sweats, the appetite completely disappears, purulent sputum is abundant, the patient gets thinner and loses rapidly his strength.

Percussion reveals, on a surface of about two inches, dulness at the beginning of the crisis and exaggerated sonorousness at the end. Auscultation reveals a dull respiratory murmur, which at times disappears altogether; then there is a souffle, on which follow first crepitant râles and afterwards cavernous ones. During all this time, which usually spreads over a period lasting from November to May, the thermometer registers a temperature which is always over 100.4 degrees, and sometimes rises to 102.2 degrees in the evening. The weight of the patient, which in the good season is one hundred and twenty pounds, comes down during the bad season to one hundred pounds and even to ninety-five.

When the fine weather comes, towards May, the condition ceases to be so bad, fever abates, the appetite comes back, and the improvement is every day more marked. M. A... takes up his occupation again, losing every year more strength and only adding one more cavity to those already existing.

For the last few years M. A... used to spend the greatest part of the winter in the south of France. During the winter of 1889-1890 business compelled him to stay in Paris, and in that year he was sorely tried. He was obliged to stay indoors as he had done in the preceding years, but this time without going out of the house one single time before the end of May, 1890. The weight of the body had come down to ninety-five pounds, there was profuse sweating, and diarrhœa had again appeared at the end of April.

The fine weather, to which M. A... had been looking forward with impatience, brought no change for the better in his condition. We had reached the end of June, 1890, when I proposed the use of antiseptic injections of copper salts in combination with injections of orchitic fluid from guinea-pigs. The patient accepted the antiseptic injections, but refused the Séquardian ones. The microscopic examination of the sputum revealed the presence of a large proportion of Koch's bacilli.

In the beginning of August, after six injections, made at intervals of seven days, improvement set in. The temperature fell to 99.6 degrees in

the evening and 98.6 degrees in the morning; the appetite, though still poor, was coming back by degrees; diarrhœa had disappeared, sweating had diminished; the fits of coughing, now not so long and less frequent, only rarely brought forth vomiting of food. The weight had been raised to one hundred pounds, but the state of strength remained stationary; walking was difficult, and the feet were swollen in the evening. Percussion and auscultation showed that the local signs were not modified. The patient distinctly felt that the disease would start afresh, and everyone was afraid that this would be the last attack.

At the beginning of October M. A... was confined to his bed through having caught a slight chill.

This time my patient, who had been strongly pressed by other patients whom I had treated before, to accept the injections of orchitic juice, consented to undergo the Séquardian treatment. The first séance took place on October 18th, the second on October 23rd, and the third on the 29th of the same month. One single injection had been made at each sitting. At last M. A..., feeling somewhat better, and being no longer afraid of the new treatment, received regularly, from the 5th of November onward and three times a week, three injections of one cubic centimeter of orchitic fluid at each sitting. On the 20th of November, after six sittings, the patient ate with appetite, slept well, coughed and spat much less. The thermometer registered 98 degrees in the evening and 96.8 degrees in the

morning, the pulse was at seventy-six, the strength was improving, the patient felt he was coming back to life. In spite of the cold, M. A... has not missed one single day of work in his office since November 28th up to this day, March 28th.

The number of antiseptic injections has been sixteen, and of Séquardian injections one hundred and twenty-six in forty-two sittings. The weight, which was at the beginning of the treatment ninety-four pounds, is to-day one hundred and thirty-four; in other words, has increased by forty pounds. M. A... scarcely coughs, and looks after his business with the same ease as he did six or seven years ago, that is to say, at the beginning of his illness.

The examination of the sputum at the microscope, which was resorted to once more, showed a great diminution in the proportion of Koch's bacilli. In December, 1910, I heard that M. A... had committed suicide as a sequel to financial losses. The cure consequently must be considered as real.

Conclusions.—These five observations prove:—

1. The insufficiency of the antiseptic injections applied alone.

2. The real and incontestable action of the Séquardian injections in phthisical patients whenever there is urgency to sustain or raise the strength of the patient in producing a dynamogenous effect upon his nervous system. In these cases, as in all those which have been reported

by my colleagues, the injections of orchitic fluid have restored the patients' strength, have given them back their appetite and their sleep, in regulating the physiological functions, the harmony of which is indispensable to health.

3. That the use of antiseptic injections of hydrous phosphate of copper combined with the Séquardian injections, which are above all the element of strength and life, bids fair to become of the greatest importance in the treatment of tuberculosis.

(Extract from my book, "Force et Santé.")

OBSERVATION VI.

Lady C..., twenty years old, tall, very thin, weighs eighty-eight pounds. Her only brother died of consumption four years ago. Lady C... catches a cold very easily, she eats but little, is afflicted with an almost constant little dry cough. The menses appeared for the first time when she was thirteen, but since that time they are very irregular, the flow is scanty, and there is at times an interval of five or six months between two successive courses. The family doctor advised a stay in France, and for the last four years Lady C... spends six or seven months every year on the Riviera. In the course of the last four years abundant hemoptysis appeared several times. Auscultation and percussion proved in an un-

mistakable manner that the left lung was in a permanent state of congestion. Not a week elapses without its being found necessary to apply more or less powerful resolvants. Tuberculosis is there hidden and menacing, there can be no doubt about that; it awaits only a favourable opportunity to break out. Lady C... constantly lives upon a volcano which is always ready to burst open a crater, and her family lives in perpetual dread.

Last winter, in January, 1891, Lady C... was at Cannes, when her feet got wet whilst she was out for a walk. In spite of the haste with which she was taken home and was given all necessary attention, the determining cause had been sufficient to bring about fever on that very same evening; a fortnight later the summit of the left lung was the seat of moist râles, which left no doubt as to the certainty of the long-dreaded outbreak of phthisis. The young patient was declining rapidly. On the 15th of February I was called by the family to apply the treatment by means of subcutaneous injections of orchitic fluid. I advised at the same time the use of injections of hydrous phosphate of copper, but Lady C..., who feared possible pain, first refused these. On the 16th of February I injected two cubic centimeters of orchitic fluid, and on the following day an equal dose. I left a supply of liquid with the family doctor, who continued the treatment at the rate of two sittings every week, two injections of one cubic centimeter being given at each. At the end of February the fever

had abated, the patient's strength had slightly come back, but tuberculosis was not stopped yet in its progress. It is at this moment that, after many entreaties, Lady C... made up her mind to try the injections of hydrous phosphate of copper concurrently with the injections of orchitic fluid.

On the 1st of March the first injection was made and well tolerated. During the whole length of the month the attending physician made every five days one antiseptic injection, and twice a week two injections of orchitic juice. Already, after the fifth antiseptic injection, that is to say, on March 20th, the fever had completely gone; the patient was much better; the progress of the disease seemed to be stopped, and the restorative period began. Indeed, from this day onward the improvement became constantly more marked, so much so that at the end of April Lady C... was back in England, and her family invited me to come and ascertain her cure. In two months twelve injections of hydrous phosphate of copper and forty-eight of orchitic fluid had been made. With this treatment the appetite had improved, the courses appeared normally, the weight of the body had increased by eleven pounds, breathing was unhindered throughout the lungs, and auscultation revealed no trace of the serious disease Lady C... had been suffering from, not long ago. Since that time the physiological functions continue to be performed in a normal manner. No relapse has taken place, although no treatment of any kind has been given since May. Conse-

quently, we can draw the conclusion that the cure is a final one.

(Extract from my book, "Force et Santé.")

OBSERVATION VII.

Madam H... T..., of the Grand Duchy of Luxemburg, twenty-four years old, of a lymphatic temperament, has been suffering for the last two years from pulmonary phthisis, characterised at the time when I examine her by moist râles, a cavity at the summit of the lung, and a string of enlarged lymphatic glands right and left. Two of these ganglia on the left are softened and suppurated. On the 20th of January, 1891, after having proceeded to the curettage of the suppurated ganglia, I begin the injections of orchitic juice at the rate of two injections of one cubic centimeter of liquid twice a week, to raise the strength, which is very low, and to improve the appetite, which is almost non-existent. On the 10th of February the appetite begins to come back; the courses, which had been suppressed for the last six months, made again their appearance. The patient is a little better; the fever has almost gone in the evening; the thermometer instead of registering 101.2 degrees as before the treatment, has fallen to 99.6. None the less does auscultation reveal no change in the material lesions caused by tuberculosis; the operated ganglia are still in a state of suppuration. The

general condition continues to improve during February and the beginning of March. Under the influence of the Séquardian treatment Madam H... T... has gained over three pounds in weight. On the 26th of March the courses again appear, more abundant than in February. The ganglia have ceased suppurating, the wounds are healed, but the moist râles reported on the right and the cavity have undergone no change; the examination of the sputum reveals the presence of Koch's bacillus in nearly the same great proportion as had been ascertained at the first examination made by the same chemist two days before the treatment. I then decide, on the 31st of March, to make an injection of hydrous phosphate of copper every week without giving up the Séquardian treatment. Already, after the third antiseptic injection, that is to say, on April 15th, the improvement became rapidly marked; the sputum turned a whiter colour, and there was also less of it. At the end of May, Madam H... T... was entirely well. The ganglia of the neck were scarcely perceptible; the moist râles had disappeared with the exception of a very slight rumbling in the right supraspinous fossa, which pointed out to a cavity not entirely closed yet; the weight of the body had increased by nine pounds since the 31st of March, and of twelve pounds since the treatment was begun. The examination of the sputum scarcely revealed the presence of a very few bacilli. On the 5th of July everything was again righted, and I may say to-day, without fear of a mistake, that

Madam H... T... is cured. I made ninety injections of orchitic fluid and fourteen injections of hydrous phosphate of copper in five months and a half.

(Extract from my book, "Force et Santé.")

These two last observations clearly show, just as the preceding ones do, the beneficial action of orchitic fluid in phthisical patients, but they prove no less obviously that these injections are unable to cure the phthisical patients without the assistance of the antiseptic treatment, consisting of injections of hydrous phosphate of copper. It is to the combination of these two agents to which phthisis yields; it is often useful to add to them aromatic inhalations also. And I think I may be entitled to say to-day, without being taxed with rashness, that I can render myself master of pulmonary tuberculosis in all cases when the disorganisation of tissues has not reached a stage at which reconstitution is impossible.

Tuberculosis of the lymphatic glands and in the bones and joints.

M. Richard, fifty years of age, an alderman at Levroux (Department of Indre in France), has been suffering for the last few years from a tumour of the ganglia. The diagnosis set by

Dr. Guérineau, of Levroux, pointed out to tuberculosis of the lymphatic glands, which was confirmed later by an examination made by Dr. Verchère, surgeon of the Paris Hospitals, who removed the gland in 1891. This radical intervention did not stop the progress of the disease; the wound following upon the operation would not heal. M. Duguet, physician of the hospitals in Paris, was called in for a consultation, the result of which was that he advised the patient to spend a season at Cauterets in the Pyrenees. The sulphurous treatment brought about a slight improvement, which lasted scarcely a few weeks. Then the wound broke open again, and the tuberculosis affected the lung tissue. The inferior maxilla, one rib, one phalanx of the right middle-finger, are to be operated upon in succession. As had been the case after the removal of the gland, the wounds would again not heal. Fever came back every evening; the patient lost his appetite, and began to get rapidly thinner. In July, 1892, an enormous tumour appeared in the left iliac fossa; the ganglia of that side became bigger and indurated. M. Richard called in Professor Lannelougue, who, on the strength of preceding failures, refrained from operating anew. An abundant suppuration intervened in the inguen, which robbed M. Richard of the little strength he had left. It is at this time, namely, at the end of October, 1892, that the patient began the Séquardian cure with the liquid which I send him. Dr. Guérineau, of Levroux, makes the injections. Soon the fever abates, the

appetite comes back, the strength is beginning to get restored, the suppuration disappears, the wounds heal. After one month of treatment and thirty injections of one cubic centimeter, the patient leaves his bed, and the injections are stopped.

However, the suspension of the injections turned out unluckily, for at the end of three weeks the suppuration reappeared and the wounds were again open. The treatment was taken up again, this time without interruption up to August, 1893. At this time the cure seemed to be final. The injections, which were first given at greater intervals, were at last stopped entirely in the beginning of September. M. Richard resumes his life as a healthy man, and with it his occupations and pleasures. In spite of the complete cessation of the treatment for over six months, the cure has been maintained without a break. In November, 1892, before beginning the Séquardian cure, M. Richard weighed 124 pounds, to-day he weighs 160. The duration of the treatment has been of about nine months; two hundred and sixty injections of one cubic centimeter of orchitic fluid have been made.

DR. L. H. GOIZET, Paris.

Sixteen patients suffering like M. Richard from tuberculosis of the lymphatic glands, or from tuberculosis in the bones and joints, have been treated by me with the same gratifying results.

With all these patients no other treatment was used concurrently with the Séquardian injections. These facts need no comment.

It is now forty years that I busy myself with tuberculosis. I have not lost one single opportunity to ascertain the effects of the varied treatments which have been propounded to combat this terrible disease, a disease which accounts for more than a fourth among the causes of deaths which are recorded in Paris by Dr. Bertillon every week. I know what to think of the value of these treatments.

To-day we are witnessing the formation of a crusade in defence of the public health, not only within the medical world and the benevolent societies, but also among the general public. The community, threatened in its most precious good, that is to say, health, is roused, and tries to organise the struggle. Funds have been collected under the patronage of exalted persons. Soon the money coming from voluntary contributions will be sufficient to make use of all the means with which progress has furnished us, and they will be placed at the disposal of devoted physicians who will direct their efforts exclusively to this work of regeneration.

But the promoters are much embarrassed. The cry of alarm has been heard, money is coming

from all sides, though no one has any fixed plans ready to be applied to a practical organisation of the defence.

One of our distinguished colleagues, Dr. B..., who has been in a position to convince himself of the fact that orchitine, when collected and prepared according to the process which I have described in this book, is the surest and most potent agent to use in order to obtain the regeneration of tuberculous patients, is called in the near future to undertake the supervision of one of the private sanatoria where phthisical patients are received and nursed. Not long ago he asked me for advice with regard to the organisation of such an institution. I was not at great pains to give him an answer, as for a long time back I had been examining all different conditions which would more likely ensure success to establishments of this kind. Here is my answer: The question has to be examined from a double point of view, namely, from the point of view of the collectivity which is to be protected from contamination, and from the point of view of the patient; that is to say, it is necessary (1) to prevent the extension of the scourge in isolating rigorously the phthisical patients; (2) to treat them, once they are isolated, by the most appropriate means, so as to improve their condition or to cure them.

Isolating the phthisical patient.—Phthisis is a disease which is transmissible by contact, consequently exceedingly dangerous. The sad experience of this fact has been gone through by many a family in which absolutely healthy members contracted the disease whilst nursing a brother, a sister, a child, a father, or a mother. It has occurred that patients admitted at a hospital for other diseases than tuberculosis, and also healthy medical students, have caught the germ of phthisis in the wards where tuberculous patients were treated. The first precaution to take in order to prevent the contagion is to place, as far as possible, the patient in conditions under which it is impossible for him to contaminate anyone. This isolation is theoretically easy to decide, but in practice is much more difficult to accomplish. Affection, devotion, even ignorance of the existing danger, are as many obstacles in the way of securing isolation when required by the doctor. In this question the heart will always get the better of the instinct of personal preservation. To solve this first part of the problem it needs a law, or at least bye-laws of some kind. There will be, of course, at first, a general outcry against this encroachment upon the liberty of the individual and the cruelty of the law. But as this law will be a just one, as it will be a law of general interest, it will not be long in passing.

into the customs, and will no doubt finally be accepted by everyone, provided it is applied firmly and with no regard to status or rank.

Once isolation will have passed into our laws, the greatest care will have to be taken to render it as effective as possible. Consequently communication of any kind between isolated patients and the rest of humanity must be strictly forbidden. The staff of every sanatorium will have to be recruited among the most able-bodied patients in the establishment. Each establishment ought then to avoid within the limits of possibility the intercourse with the exterior in contriving to shift for itself.

As to the supplies which must needs come from the exterior, they will be left in a special store-house by the tradesmen, so as to prevent any contact between them and the staff of the house. Each sanatorium shall have its administrative body, entrusted with the registration of the arrivals, the egresses through cures, and the deaths. A crematory shall be built for the purpose of burning the dead, whose ashes will be handed to the family.

With a rigorous isolation tuberculosis will rapidly and progressively decrease, and the time will come when we shall see that it has become as rare as lepra has done in our climes.

Treatment to be set in operation.—This treatment will comprise the choice of the site, the interior disposition of the establishment, food, physical exercise, the care to be taken of the skin, the hygiene of clothing, the accessory treatments, such as foot-baths, revulsive enemata, inhalation, and lastly, the principal elements of the treatment itself.

Choice of site.—The site, be it either on a highland or in a well-sheltered dale, ought always to be situated in the heart of the country, in a temperate climate rendered lightly moist by the natural evaporation of the water stored by the plants. Whenever possible the site reserved for the dwellings ought to be cleared in the midst of a forest of pines and of oaks. The water ought always to drain off easily, and consequently never remain on the ground.

Interior disposition of the establishment.—In each colony of phthisical patients there will be two buildings for dwelling purposes, the one situated upon the flat highland, abundantly aired in a bracing atmosphere; the other, well sheltered, situated in the valley, where the air is sweeter, more temperate, and where there are no sudden gusts of wind.

At their arrival in the colony, the phthisical patients will be divided into two categories. Those suffering from acute tuberculosis will be

sent to the building in the valley, the others, whose malady is progressing more slowly, are to be sent up to the highland. Each group of patients will thus be in a position to breathe the air which is appropriate to their temperament and to the form of the disease they suffer from.

The transport of the patients on railways will take place in special carriages, the property of the colony, and when transported by other means, in carriages which also belong to the colony.

Each building will have two distinct departments, one for men and another for women. Each department will possess a dormitory, a dining hall, kitchens and accessories, and also a large well-lit gallery, in which are to be found aromatic plants, tables for reading purposes, for games and for work. The dormitory, the dining hall, and the gallery are to be built with a sunny aspect, that is to say, look south. The walls of the residences will be built with strong bricks, doubled towards the inside with a partition of pine and covered with four layers of painting.

Between the wall of bricks and the partition of wood there will be an empty space of the width of two inches, in which the air may circulate freely. The dormitory is to be divided into a certain number of boxes, large enough to receive a good bed, a toilet table, a chair, a

large movable spittoon, a little wardrobe for the linen, a suit and boots for change. A sitz-bath with a rain-douche will be placed in each box, as well as two pegs for hanging clothes. All the boxes will be on one rank, placed against the northern partition of the dormitory. This partition will have no bay whatever. In this way draughts will not inconvenience patients when they stay in their boxes. All the windows must be provided with a very thin and movable trellis. The dining hall and the gallery will have all their bays turned towards the south.

These buildings will have only one floor, but between the ground and the floors there will be an empty space, well aired, of an average height of seven feet, in which the heating apparatus is to be placed and the pipes bringing hot and cold water to each box are to be laid. These pipes may also during cold weather be filled with hot water with a view of keeping up an equable temperature in the rooms and halls.

Large and well-sterilised spittoons are to be placed in the dining hall and in the gallery. Around the dwellings a space will be provided for the cultivation of flowers, of shrubs, and vegetables; this space is meant for the benefit of patients, where they will be able to take some interesting exercise in keeping with their strength. A laundry and a drying-stove for disinfection will also find place near the principal buildings.

Beside the principal buildings, the colony will possess special ones, where the offices and the working stock and farming implements will find accommodation, such as the cow-shed, the workshops for the different trades, etc., etc. In a word, the necessary organisation to a little republic meant to live outside the rest of humanity. The director, the foremen, the clerks, and the physicians will be chosen from among the patients themselves.

Food.—Eggs, milk in all its forms, green and farinaceous vegetables (cabbage and any kind of crucifer are especially recommended as green vegetables, the flour of maize, of wheat, of barley, of oats, of rye, of beans, of well-dried peas, of haricot beans, of lentils, and all pastes, constitute the best farinaceous food). As for fish, fresh cod may be taken without fear of indigestion. With regard to meat, I give the preference to mutton, pork, and fowl. Green or farinaceous vegetables with gravy are excellent. One important question is how to regulate meals. But this question, which depends on the tolerance, the appetite, and the taste of each patient, can only be solved by the patient himself, or at least with his assistance. The physician and the patient ought to help each other in the solution of this problem. However, one may see that it is preferable to eat little at a time and often. Abundant meals, if

they are to be enjoyed at all, must be followed by at least two hours of complete rest, if vomiting is to be avoided.

Wine.—Wine is a precious food for chronic phthisical patients. It sustains them, cheers them, and gives them strength. I prescribe it to be taken at meals, without water, and in sufficient quantity (half a bottle and even one full bottle a day is not exaggerated). It is absolutely necessary that the wine be of good quality, and free from any mixture. Spanish rioja and claret are preferable on account of the tannin which they contain and the ease with which they are digested. I insist upon chronic phthisical patients taking wine, in spite of the contrary opinion of many eminent physicians. I have studied with great care and attention the effects of the diverse drinks upon the progress of phthisis, and the result of my numerous and protracted observations is entirely in favour of wine.

Beer.—Beer suits the patients who suffer from an acute form of phthisis better. I advise them to take to malt beer or to English stout. One bottle a day is not too much; it is an excellent food.

Milk.—Milk is precious to phthisical patients; it is suited to any form of phthisis. It ought to be taken as an adjunct to the ordinary meals,

and should be sipped between meals or at night at the dose of one pint or one pint and a half. In this way it considerably helps suralimentation.

Exercise.—Exercise in the open air and in the sun is very salutary to phthisical patients, especially to those in the first and second stage of the disease. Walking, gardening, when done in due proportion to the strength of the patient, and continued until abundant perspiration covers the whole body, without, however, going so far as to reach actual fatigue, produce a wholesome effect, and are very helpful in overcoming the disease. When this exercise is taken twice a day, and gone through with moderation, it increases the patient's appetite and his force of resistance. It contributes for a good part to the cure by accelerating respiration and circulation in the pulmonary parenchyma.

Care of the skin.—After work, and when the pores of the skin are well open and the patient is in full perspiration, he ought to go back to his box and pass under the douche. Standing in the sitz-bath with his feet in warm water, he will receive on his body—in taking care not to wet the head—from the neck down to the feet, a gentle warm rain douche. Afterwards he must be vigorously and rapidly rubbed with a piece of warm flannel, slightly imbibed with a mixture

of turpentine, alcohol, and aromatic essences. He then will quickly put on clean and warm clothes. This ablution, followed by a friction and renewed every day, or even twice a day, keeps the skin in a state of constant cleanliness and in good working condition, thus avoiding the febrile dryness usual with phthisical patients, and also the profuse sweats of the morning.

Clothes.—The clothes will comprise a cotton undervest and a suit of wool, more or less thick according to the season. The undervest must be changed after each sudation and sent to the drying-stove, where it is submitted to a temperature high enough to destroy the bacilli; once this is done it goes to the wash. The same must be done with the handkerchiefs, which are also to go to the drying-stove before being washed. The wool suit must in its turn go to the drying-stove once every week.

Accessory treatments. — Every evening the phthisical patient will have to take a tepid and slightly sinapised half-bath before going to bed, or in case the legs are tired through the repeated baths, hand-baths equally sinapised will have to be used. These revulsives have as an effect to prevent congestion, which regularly occurs when the patient stretches himself out in his bed, and which also will bring forth a very painful fit of coughing.

Inhalation.—During the night the air will be constantly renewed in the dormitory; to this purpose the windows will be kept open, so that the air may pass through the metallic trellises. Aromatic vapours coming from under the floor through pipes will fill the air with subtle volatile antiseptic principles, which will penetrate as far as the pulmonary vesicles at each inspiration during sleep without the patient's knowledge.

Finally, constipation will be carefully avoided by means of enemata with boiled water, which are to be thrown out immediately. Then will come an enema of creosoted oil, which the patient must keep in case he cannot tolerate the cupric injections.

Principal treatment.—This treatment is nothing else than the one we described at the beginning of this long chapter, and will comprise the antiseptic injection, cupric or otherwise, and the orchitic injection.

This is how I understand the installation of a colony of phthisical patients and the nursing which they ought to get in order to get really cured. I can affirm that in these conditions these colonies will not only prevent the spreading of the disease, but also give back to their families and to the community, thanks to rigorous isolation of the contaminated patients, the great majority of the colonists.

CHAPTER XIII.

Orchitine in the treatment of cancer, of constitutional syphilis, fibrous nephritis (Bright's disease), diabetes and uterine fibroma.

Besides the one hundred and three cancerous patients quoted by Brown-Séquard in his report to the Academy, I have personally treated thirty-one patients who suffered from cancerous cachexy. Out of these, seventeen were improved in a marked manner. If I dared, I should say that three of these patients are in such a satisfactory condition that they may be considered as cured.

OBSERVATION I.

Cancerous cachexy.—In January, 1892, I ascertained in Madam X..., thirty-nine years of age, a very much advanced cancer of the cervix uteri. The diagnosis was confirmed during the necrosis produced by chloroform and by the examination at the microscope, both performed by the eminent

surgeon, Dr. Freund, who in February, 1893, declared that there was no operation possible, on account of the extent of the disease, which occupied the whole of the posterior wall of the vagina, and had produced metastasis in the rectum. Since, there occurred at different times abundant intestinal hemorrhage and black vomiting, which is a certain sign of hepatic metastasis. Finally, in July last, the patient was in a state of extreme cachexy. At this time I received orchitine prepared at the laboratory of Dr. Goizet, of Paris, and I began the injections at the rate of one cubic centimeter every other day. The action was almost sudden; already, after six injections, the general condition improved, the appetite was coming back, and the strength began to be restored. From this time onward Madam X... did not cease to draw nearer and nearer to a final cure, so that to-day, after seven months of treatment, normal life has again been resumed. A thing more surprising still is that, not only did the fetid secretions disappear long ago, but the tumour itself has been reduced by three-quarters of its primitive volume.

Since the beginning of the treatment up to February the 4th, I made seventy-seven injections of together seventy-seven cubic centimeters of orchitic juice sent to me by Dr. Goizet.

Dr. Jos. Cahn, Strassburg.

OBSERVATION II.

M. R..., fifty-three years old, has been afflicted with syphilis for the last twelve years. The specific manifestations were produced especially on the mucous membranes and the skin. M. R... has followed very scrupulously the classical treatment under the direction of Professor Fournier. For several years the recurring syphilitic symptoms were easily modified after six weeks or two months of treatment. But since two months the syphilids had proved very refractory to treatment, and had persisted in spite of stronger doses. It was then, in January, 1892, that M. R... came to consult me. On both shins, at the elbows, in the mustache, and in the hair there were crusts, on the origin of which doubt was not possible. The treatment had fatigued him much; he was depressed in seeing that the remedies had lost their action upon his complaint. M. R... then resolved to try the Séquardian injection. I began the treatment on the 18th of January with the injection of two cubic centimeters of orchitine, and continued with the same dose every other day. Already, after the fifth injection, the appetite had come back, and the digestion was excellent. Insomnia, with nocturnal headache, had ceased completely, to make room for restful sleep. On the 20th of May, after four months of treatment, the skin had resumed its normal aspect. Since, that is to say, for over three years, no manifestation of a syphilitic nature

has been noticed, in spite of the absolute suppression of the classical treatment. It is true that for the last three years M. R... has been undergoing twice a year the Séquardian treatment for a period of two months, and that in the intervals he makes an injection of one cubic centimeter of orchitic juice every five days.

OBSERVATION III.

M. I..., a commercial traveller, forty-two years old, caught syphilis at the age of twenty-two. At that time he was in garrison at Montpellier, where he underwent at the military hospital the ordinary treatment during several months. Under the influence of this treatment all secondary manifestations of constitutional syphilis, mucous patches, copper-hued skin eruptions, disappeared, and during sixteen years M. I... lived undisturbed. At the age of thirty he married; his wife bore him two children, who are in perfect health. Four years ago his wife died. This loss caused him great sorrow, and undermined his health. Headaches, pains in the limbs, disturbed his sleep; one eye became affected with iritis and the other was not long in being affected also. Dr. Despagne, who had been called to attend the patient, immediately recognised the specific nature of the disease; he prescribed a local treatment appropriate to the case, and also sirop de Gibert to be taken in strong doses. M. I... was cured, but six months later a tumour of the

bones appeared on the left of the forehead, and at the same time a gumma on the sacrum a little above the coccyx. The treatment was resumed with energy, and carried on with perseverance, but did not give any good result. One of my patients sends M. I... to me on March 29th, 1891. I caused the classical treatment to be stopped, and on the very same day began the orchitic injections on M. I... Twenty sittings in forty days, at the rate of two cubic centimeters each sitting, gave no result. I then prescribed sirop de Gibert concurrently with the Séquardian injections. Success was complete; the accidents disappeared after one hundred and forty days of treatment, and since then no manifestation has occurred. M. I... takes up the injections and the sirop de Gibert for two months every year.

These observations, which I have chosen from among a hundred others, leave no doubt as to the gratifying influence of orchitic injections upon patients who suffer from refractory syphilis. With all these patients who underwent the Séquardian treatment at my own hands, either taken alone or in combination with the classical treatment, the failures have been few and far between.

The practical experiments which have been made at the Hospital St. Louis in Paris and at the Hospital of Louvain in Belgium during the last two years, on an extensive scale, prove conclusively the correctness of the facts on which I have reported long ago. Professor Fournier, who is not all too tender towards Brown-Séquard's discovery, has been obliged fully to own that the

patients who undergo the simultaneous treatment of the injections of orchitic juice and of the ordinary classical remedies, are more thoroughly and more rapidly cured than those who are treated by the classical method only.

OBSERVATION IV.

M. S. de B..., seventy-three years of age, who suffered from Bright's disease, was, according to the judgment of several among the most eminent of our colleagues of Paris, at the point of death, when the son, remembering the advice given to his father by his old friend Brown-Séquard, called on me and asked me to give his father injections of orchitine. I went at once to the dying man, where I find his own doctor, and in this latter's presence I made three injections of one cubic centimeter of orchitine, without hoping to get any result. The patient, in a comatose condition, had even not felt the pricking of the needle. When I called on the following day I found the patient, to my utter astonishment, seated on his bed, believing himself cured and inviting me to a glass of port to celebrate his resurrection. The patient lived another two months in a slightly improved condition, during which I had injected thirty cubic centimeters of orchitine in twelve sittings. This patient has not been cured, but he outlived himself by two months certainly.

OBSERVATION V.

Diabetes.—M. P..., a butcher, sixty-seven years of age, has been suffering from diabetes for over ten years. Thanks to the diet, which had been followed scrupulously, the disease had remained stationary, when, in 1891, as the consequence of an attack of influenza, M. P... lost his appetite, became thin in a dreadfully short time, and saw his strength declining to such a degree that a few minutes walking was sufficient to cause him extreme fatigue. One season at Vichy, which had been prescribed too late, completely exhausted the patient. It is at the time when he came back from Vichy that I was called to attend M. P... The last analysis made at Vichy, before his departure, revealed 75 grammes of sugar per liter of urine. I began the treatment on the 1st of October, 1891, at the rate of one cubic centimeter of orchitine every other day. On the 15th of October M. P... had recovered his normal appetite and a good deal of his strength. On the 20th of December he had entirely recovered, and had gained in weight by twenty-nine pounds. And still the quantity of sugar had scarcely diminished; the analysis revealed 55 grammes per liter. This observation shows that in this case, as in many organic complaints, the injections of orchitine had cured the patient without doing away with the disease. I could quote over fifty patients suffering from diabetes whom I have treated and cured in similar conditions.

OBSERVATION VI.

Uterine fibroma.—The Séquardian injections have a favourable influence, which is very marked, on the development of uterine fibroma and on the accidents which they bring about. The following observation, chosen from among many others which have come under my personal notice, is an absolute demonstration of what I am putting forward:—

Madam J..., forty-three years of age, is afflicted with an uterine fibroma, the weight of which I estimate at about seven pounds. Madam J... has been regularly undergoing for the last two years an electrical treatment at the hands of Dr. Apostoli. Under the influence of this treatment the tumour ceased to grow further, but at different times, and often at close intervals, there was uterine hemorrhage of such abundance that Madam J...’s life was seriously endangered. Madam J... came to consult me in January, 1893, and underwent regularly, for a whole year, the treatment at the rate of two injections of one cubic centimeter of orchitine every three days. I had ordered every other treatment to be suspended. At the end of the first month the uterine hemorrhage had disappeared, and during the subsequent months the courses appeared normally. After one year’s treatment the tumour was reduced by two-thirds of its primitive volume. Madam J..., without taking any special rest, had recovered her lost strength and the freedom of her movements.

I have often noticed that the injections of orchitine had a very marked action upon the womb, and that they were the most powerful agent in regulating the courses from the point of view of the intervals between them and of the quantity and the quality of the blood lost.

With young girls whose menses were tardy in coming, with those whose courses were painful and scanty, a few injections of Séquardian juice sufficed to re-establish the harmony of the physiological functions of the uterus.



CHAPTER XIV.

The power of a book.

Why it is deemed necessary to publish a new book.

Twenty years have now elapsed since I published the first edition of my book, "Life Prolonged." At that time the discovery of Brown-Séquard was passing through a dangerous crisis. It had to bear the brunt of unprofitable struggles in trying to fight against the current of incredulity with which it had been received when it came to light. It was all uphill work at the time; the celebrities of the medical world, who had seen nothing because they had experimented upon nothing, were openly hostile or said nothing when they were asked their opinion on the method. The bulk of the medical profession accepted blindly the opinion of their leaders; and however eloquent the communications to the Biological Society of Paris may have

been, Brown-Séquard's scientific truth was not in the least benefited by them. The danger was that it might become submerged under the indifference or the hostility of the great number, and to ward this contingency off it was necessary to strike a decisive blow without loss of time, and to develop this great truth, which had unfolded itself to my eyes under all its aspects, by means of irrefutable facts. To dance attendance at the gates of scientific societies and hide oneself within the pages of scientific reviews, which the public never reads, was tantamount to burying for all time to come a discovery, the results of which were incalculable. My conviction was too deeply rooted to let me wait much longer. Under the title, "Life Prolonged by the Method of Brown-Séquard," I published a book which was not meant for the physicians, but for the man in the street. This book, which gives the history of the method, beside information on the simple means of how to apply it oneself, and which contains a very great number of facts, easy to control and impossible to deny, met with an immense success.

The daily Press was stirred to its depth by this publication; reporters flocked to my house, ascertained the truth of the facts announced, and drew the attention of the world to the immense significance of the method. At that time I said:

“It is by dint of facts that I shall compel the deaf to hear, the dumb to speak, the blind to see; even those who refuse to see to hear and to speak.”

I was right, for it is, thanks to facts which I have never ceased loudly to proclaim, that the deaf have heard, the blind have seen, and the dumb have spoken.

The Doctors Hénocque, Lemoine, Dumontpallier, Variot, and Cornil, roused by the hubbub created by the world's Press, desired to examine the exactness of the facts which I had put forward in my communication of the 20th of December 1890, and which was being commented upon in the leading papers all the world over. Then, at last, the walls of the hospitals, more insuperable than the Chinese wall, no longer shut off the method from the wards where the suffering patients lay. The scientific baptism of the method had at last come; its official consecration was now an accomplished fact. This first victory proved to be decisive. In one month my book had done more for the method than two years of communications to the Biological Society of Paris. How many patients, now cured or relieved, were only enabled to use Brown-Séquard's discovery after they had read “Life Prolonged”? How many of them would now be dead or would still languish under their

sufferings, had their sole means of getting information been the reports of scientific bodies? These, at any rate, will be grateful to me for having made use of means which were more within their reach.

Once this first step in the official recognition of the scientific accuracy of Brown-Séquard's method was secured, things went on apace. Everyone, according to his aptitude and position, lent his hands to the work, so that the consequences of the precious discovery soon loomed on the horizon.

First appeared the nervous transfusion, that is to say, the treatment with the liquid made of cerebral grey matter, due to the researches of Constantin Paul, Balées, Collere, and Althaus. Then came the thyroid treatment with the juice of the thyroid gland, the carditic treatment with the cardine of Hammond, the pancreatic, hepatic, capsular, muscular, renal treatments, which gave rise to the greatest hopes; the spermic treatment; the hematopoietic treatment with extracts of the spleen and the marrow of bones. Lastly, the vaccines of recent date, viz., the anti-diphtheric vaccine of Roux, the vaccine against tuberculosis, the anti-cancerous, anti-syphilitic vaccines, etc., etc., leaving out of account the whole series of sera. Things have reached such a stage that the old therapeutics are on the eve of crumbling

to pieces, and that they will soon leave room to a new science sprung from the great discovery of Brown-Séquard.

May I be allowed to repeat it once more, things have changed so rapidly that a new publication has become necessary, to show that above all these organic substances which are employed in curing the diseases to which all flesh is heir, there is the precious juice discovered by Brown-Séquard, which will always hold the highest place as the pre-eminent dynamogenous agent in existence, a true principle of life imparting robust existence, and securing to old age years exempt from infirmities.

I will leave to others, for the time being at least, the care of reporting upon the new discoveries which sprang from the mother of them, namely, from the great discovery of Brown-Séquard. I shall devote myself still further to it, until I have made it yield all the treasures it contains for the good and the comfort of humanity.

DR. L. H. GOIZET.



EXTRACTS OF LETTERS

ADDRESSED BY

PROFESSOR BROWN-SÉQUARD

TO

DOCTOR GOIZET.

(The originals are in the possession of the firm
C. Richter & Co.)

Nice, December 11th, 1890.

... With regard to the question itself of the treatment of phthisis, Potain and other physicians have conclusively demonstrated that tuberculosis can be fought with success when the vigour of the patients increases. It is one of the effects of pure and renewed air ; it is also one of the effects of the orchitic liquid.

Examine carefully the phthisical patients who come under your care : the condition of their lungs every day, as well as the general symptoms. You must get the evidence of the existence of the first or second stage of pulmonary tuberculosis : consequently you need the details which you obtain from percussion, auscultation, etc. This must be done every day for months.

Nice, December 13th, 1890.

... P.S.—It is through the nervous system influenced by the dynamogenous power of orchitic fluid that phthisis is cured.

Nice, December 15th, 1890.

... I am glad to hear that you have got new patients. Examine them carefully (stethoscopic and other signs at the thorax, general signs, pulse at the sphygmograph of Marey, animal heat, weight, etc.). This is not play, but a very serious task . . .

Nice, December 20th, 1890.

... "Le Temps" of the day before yesterday, has given you a few details of the work carried on by Ouspenski. I hope that you will not allow other physicians in Paris to forestall you in the

application of the treatment, not of phthisis, but of phthisical patients who are weakened or feverish, by means of the injections which you know so well how to give. You know that Mairet has shown that the temperature of the body of an injected person rises if it was below the average and falls if it was above. That is a fact which has been ascertained also by others. Ouspenski does not seem to have had cognizance of these facts. I should advise you to turn the whole of your attention to the temperature of the phthisical patients before and after the injections are made.

Nice, December 20th, 1890.

The most important thing above all is to collect in all their details, the elements of the clinical history of the patients whom you treat. It is necessary to know minutely the condition of the patient

before the treatment begins and especially all that which one can notice on the day on which it is to begin. On that day one must note in their most minute details the thoracic signs, the temperature, the circulation, the night-sweats, the condition of the functions of the genital organs (male or female), the strength at the dynamometer, the faculty of walking a long or a short time, the digestive functions, sleep, and the rest.

If you have no difficulty in finding Koch's bacilli, it would be well if you examined the sputum; if you don't examine it yourself someone else must do it for you.

After the first injection and the following ones, it is necessary to examine everything over again, more rapidly of course, but without negligence of any sort.

The number of patients is much less important than what I have just touched upon.

Nice, December 24th, 1890.

You will be interested in hearing that the daughter of M. R... on whose behalf you have been consulted, is now out of danger. She was dying. The first injection which was made six days ago, saved her. Four injections have been made, and she walks in her garden where for a long time she had not been able to go. D'Arsonval had sent a phial of orchitic liquid, antiseptised with boracic acid. I have just seen M. R..., he is as happy as he is astonished. D..., who made the injections (against his will), is as surprised as he has ever been in his life. D'Arsonval has now a new filter with which only one hour is wanted and it produces a liquid which can be kept eight days, or at least six.

Nice, December 26th, 1890.

I congratulate you upon the new success you have had. You must secure some more. As soon as you have some important

observations ready it will be good to communicate them to the Biological Society. You will then give, beside the new facts, a few details upon your three patients of June last.

The patient of D... at Cannes continues to gain strength.

Nice, 26-27th December, 1890.

I have tried many antiseptics and have regularly found that the power of the orchitic fluid was diminished by their use. It is on myself that these experiments were made and the injection was given in the rectum. Two important antiseptics, boracic acid and salicylic acid, had not been given a trial by myself. D'Arsonval tried boracic acid which in no way alters the odor or the transparency of the liquid. The experiment which D... has just made shows that boracic acid does not lessen the potency of the fluid. It is likely that the lady patient whom D...

was to bring to me, is the daughter of M. R... whom I saw yesterday, and whom I mentioned to you in a previous letter. D... made the injections with great reluctance. I should have refused to make them if they had brought the patient here ; she was besides not in a condition to come to Nice and was even unable to leave her room or her bed when the first injection was made.

It is probable that d'Arsonval may organise a department for the preparation of the orchitic liquid, now that he has found the means to run through a filter Pasteur in four minutes (instead of six or eight hours) the whole liquid obtained from two testicles. This discovery of D'Arsonval will render extremely easy the preparation of the liquid to use in subcutaneous injections.

I have made experiments on the conservation of the liquid, and am continuing them. The injections are tolerated with-

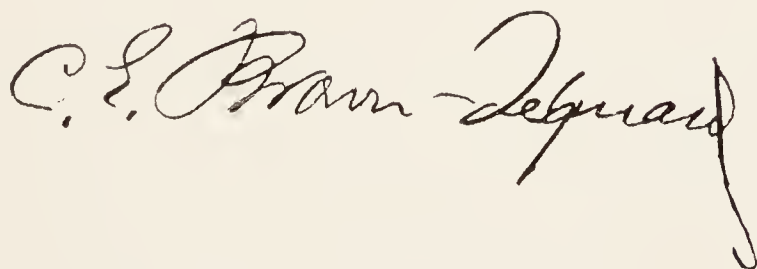
out local or general disorders during a long period, thanks to the addition of an extremely small quantity of boracic acid. I cannot say as much of the other antiseptics with regard to this particular point.

Nice, December 28th, 1890.

The daughter of M. R..., who has cavities, has been able, though dying, to show the miraculous effects which have been reported to me. Your patients could not do as much, they were not low enough for that. It is without doubt the rule that, according to all the facts reported by Ouspenski, the recovery is slow. It is only natural that it should be so, if we consider that the lungs were attacked organically. But when the weakness has reached an excessive degree, it may disappear almost suddenly, without any change in the symptoms.

Nice, March 23rd, 1891.

. . . Out of the four or five doctors of Paris who are now making experiments in the hospitals, not a single one has shown much zeal in doing so, and two or three, I am afraid, showed . . . something quite different. This has not been the case with Dr. Lemoine, of Lille, who has obtained remarkable effects in four cases of pulmonary tuberculosis.

A handwritten signature in cursive script, reading "C. L. Brown-Séquard". The signature is written in dark ink and has a long, sweeping tail that extends downwards and to the right.

(Autograph Signatnre of Brown-Séquard.)

SOME PARTICULARS.

Sequarine, prepared in the laboratories of C. RICHTER & Co. at Kreuzlingen, Switzerland, is obtained exclusively from the male sexual organs of guinea-pigs, according to the strict instructions given by M. L. H. Goizet, Doctor of Medicine of the Faculty of Paris, founder of the Séquardian Institute. The process of filtering, of sterilising, of titering, of distributing the fluid into ampullæ, originate from Dr. L. H. Goizet.

Sequarine is kept in sterilised ampullæ of brown glass of the capacity of one cubic centimeter. Each ampulla bears engraved in the glass the name "*Sequarine*," which constitutes the mark of its origin.

It is packed in boxes of four ampullæ, which are sold at the price of eight shillings (two dollars) per box.

The ordinary dose is one ampulla every other day, taken in the form of subcutaneous injections, or of one ampulla every day in the form of an enema.

The Pravaz's syringe costs four shillings (one dollar).

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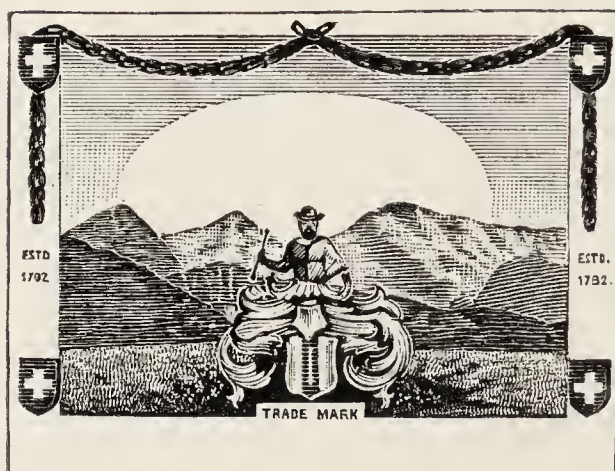
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The Box of Ampullæ, the Ampullæ themselves, and the Syringe to use for the injections of Sequarine.





The above is the Trade-Mark of the Richter Company. Its constituent elements are:—

- (1) at the four corners of the frame, the arms of Switzerland;
- (2) in the centre, the arms of the Richter Family;
- (3) in the background is a mountainous scenery composed of the Jungfrau, the Moench and the Eiger.

The Richter Laboratories and Pharmacy at Kreuzlingen (Switzerland).



The present Pharmacy is under the management of its proprietor Mr. H. Richter, who is the descendant of a lineage of chemists: Johann Richter was the first to found an establishment in the year 1782, as is proved by legal documents. The succession of chemists of the Firm is as follows: Martin Richter, Franz Richter Carl Richter.

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It is in this enchanting and picturesque site that the charming little town of Kreuzlingen is built, where the world-famed laboratories of the Richter Company are established. The proximity of the town of Constance and the amenity of the grand lake on which it is situated, with the Alps in the background, make of Kreuzlingen the very place for patients who seek rest, relief or cure. They will find at the Richter laboratories a list of physicians of Kreuzlingen who are recognised and approved by the firm as skilled in the application of the method. In other Swiss localities, the principal doctors make the injections on the patients who ask for them.

By TRAIN, the Journey

from Basle	to Constance-Kreuzlingen	takes	3	hours
„ Lucerne	„ „ „		3	„
„ Munich	„ „ „		5	„

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